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# PERSPECTIVES

ON LABOUR AND INCOME

**SPRING 2003**

Vol. 15, No. 1

## THE LABOUR MARKET

- 2002—A GOOD YEAR
- UP NORTH, DOWN SOUTH
- QUALITY OF JOBS ADDED

## RETIREMENT

- THE COMING WAVE
- MEN 55 AND OLDER
- OLDER WORKERS
- RRSP CONTRIBUTORS

## INCOME IN 2000



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# PERSPECTIVES

ON LABOUR AND INCOME

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*More on the labour market*

**Perspectives on Labour and Income**  
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## ■ Articles

### 9 2002—a good year in the labour market

*Geoff Bowlby*

In 2002, the labour market defied expectations by improving dramatically. A strong economy spurred a well-rounded improvement in the labour market in most industries and provinces.

### 16 The labour market: Up north, down south

*Geoff Bowlby and Jeannine Usalcas*

Few major economies are as intertwined as those of Canada and the United States. However, while the U.S. went into official recession in 2001, Canada showed only one quarter during which the economy shrank. The divergence in labour market trends was even more marked. Canadian employment eked out a small gain in 2001 and saw explosive growth in the first seven months of 2002. On the other hand, U.S. employment dropped sharply in 2001 and was flat through the first part of 2002.

### 34 Quality of jobs added in 2002

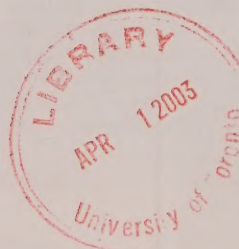
*Martin Tabi and Stéphanie Langlois*

The unexpectedly strong job growth in Canada in 2002, coupled with virtually none in the United States, has raised concerns about the types of jobs created. Various indicators can be used to profile these jobs.

### 40 The retirement wave

*Andrew MacKenzie and Heather Dryburgh*

A key challenge facing employers over the first decades of the 21<sup>st</sup> century will be the availability of qualified workers as baby boomers retire. Some industries and occupations may be affected more than others.





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## 47 Men 55 and older: Work or retire?

*Roman Habtu*

Slow population growth and aging baby boomers have made the population 55 and over an important potential source of labour. Sustaining Canada's labour supply will require prolonging the labour force participation of older workers or increasing immigration, already a major contributor to population growth. What are the characteristics of men 55 and over who are no longer active in the labour market, and what are their reasons for inactivity? Is inactivity 'voluntary' or 'involuntary'?

## 55 Older workers and the labour market

*Geoff Rowe and Huan Nguyen*

While many older workers voluntarily withdraw from the labour market, those who leave involuntarily may face reduced job opportunities, or be forced to accept lower-quality or lower-wage jobs. Some may even decide that further job search is fruitless. The resulting 'hidden unemployment' could resemble retirement. This article evaluates the relative importance of retirement and involuntary job loss.

## 59 Profiling RRSP contributors

*Boris Palameta*

What makes one person more likely than another to contribute to an RRSP? Personal characteristics examined include income, sex, age, membership in an employer-sponsored pension plan, self-employment, and participation in non-registered savings and investment vehicles. Family characteristics include income disparity between spouses, spouse's RRSP participation, type of marriage, number of dependent children, and presence of low- and high-income children over 18 in the household.

## 66 2000 income: An overview

*Pina La Novara, Heather Lathe, Gaétan Garneau and David Pringle*

A brief look at family incomes in 2000 and changes since 1980.



# Forum

■ Authors writing for *Perspectives* challenge themselves with tough questions. Among those tackled in this issue: Will employers have difficulty replacing baby boomers as they retire from the workforce? Are older workers likely to stay in the workforce to plug some of the gaps? Did the economy create 'good jobs' in the recent employment boom? How do the Canadian and U.S. labour markets compare?

Such questions seldom have simple answers. Industries with older workforces and younger retirement patterns can be identified, but preparedness is difficult to measure. Workers in professional occupations tend to retire later, yet the well-educated are the fastest growing group of early retirees. Full-time, permanent job growth continued apace in 2002, but temporary and part-time jobs grew even faster. And while job creation and labour force participation surpassed our southern neighbour's, the Canadian unemployment rate remained higher.

For the most part, the answers are not black or white. A careful examination of almost any issue will reveal various shades of grey. But some of the caution expressed in our articles is also due to the nature of the surveys that provide our raw material.

Research questions are based on concepts. Consider retirement. When does retirement occur? Is it when someone 'retires' from a long-term job and accepts a pension? But what if they begin working with another

employer? Should we consider only those who have stopped working altogether? Defining such basic concepts is only the first step.

Next, the concepts have to be matched to the surveys available. How well do those concepts line up with the questions asked in the survey? Does the survey have sufficient information to identify the salient groups for the analysis? Does it have other information necessary to test relevant hypotheses? Is the sample size sufficient? These matters of due diligence can easily eat up many hours.

Articles in *Perspectives* segregate the information on concepts, methodology and data quality into text boxes. This creates a better flow in the body of the article and, hopefully, allows the author to concentrate on telling the story found in the numbers. If you, the reader, find yourself wondering why a story is not coming down hard on one side or the other of a particular issue, have a closer look at the boxes. They will often tell the story within the story.

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## Perspectives

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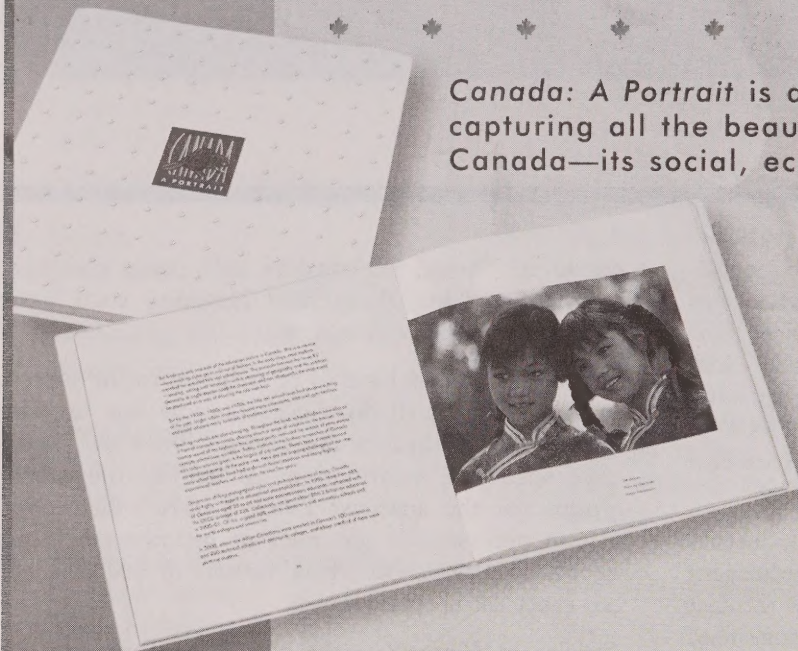




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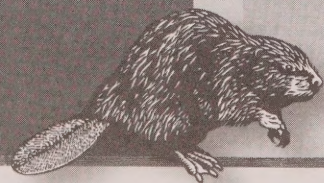
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# Highlights

## *In this issue*

### ■ 2002—a good year in the labour market

... p. 9

- From January to December 2002, employment jumped 560,000 (3.7%). At the end of the year, the proportion of the working age-population employed was 62.4%, the highest on record.
- In 2002, the unemployment rate fell half a point to 7.5%. Had it not been for a large jump in labour market participation, the rate would have dropped more. At the end of the year, the participation rate hit 67.5%, up a full point for the year, tying the high of January 1990.
- Firms in most industries were hiring in 2002, but the largest gain came in manufacturing where the ranks of the employed jumped 125,000 (5.6%).
- The resurgence of manufacturing in Canada, combined with the boom in home construction, led to an increase of 211,000 (3.1%) in employment among adult men. While manufacturing accounted for a large portion of the 244,000 (4.2%) newly employed adult women, more significant gains for this group were made in health care and social assistance, as well as in education.
- Youth employment expanded 104,000 (4.5%) in 2002, in part because of the greater availability of part-time jobs. Overall, part-time work increased by a considerable 223,000 (8.1%).
- Employment increased in almost every province, but two-thirds of the gain was in Ontario and Quebec.

### ■ The labour market: Up north, down south

... p. 16

- While the U.S. went into official recession in 2001, Canada showed only one quarter during which its economy shrank. Not since 1974 has the economy grown in Canada while contracting in the U.S.
- While the U.S. economy shrank during the first three quarters of 2001, employment contracted every month of the year, dropping 1.1%. During the same period in Canada, the number of employees increased, albeit a scant 0.9%.
- In 2002, the divergent employment trends were more dramatic—a rise of 2.3% in Canada during the first seven months versus a drop of 0.1% in the United States.
- Not only were Canadian *trends* more positive, the *state* of the labour market in 2002 was also better. The proportion of the Canadian population working shot above 62% while it tumbled in the U.S., essentially eliminating the persistent gap in the employment rate. A gap remains in the unemployment rate, but the rate in Canada is higher only because Canadians are now more likely to be participating in the labour market.
- By July 2002, youths (16 to 24) and core-age workers (25 to 54) were more likely to be employed in Canada. Older workers (55 and over) continued to have a higher employment rate in the United States.
- Manufacturers in the United States continued to shed jobs through the first seven months of 2002 (-1.9%), whereas manufacturing employment in Canada rebounded sharply (+2.7%). By July,

Canadian manufacturing shipments were 8.2% higher than at the start of the year, compared with U.S. gains of 3.5%.

- Between the third quarter of 2001 and the second quarter of 2002, residential investment in Canada increased 13%, considerably higher than the 3% gain south of the border. This had a more positive effect on construction, retail and wholesale trade, and finance and real estate employment.

### ■ Quality of jobs added in 2002

... p. 34

- The average hourly wage continued to rise, reaching \$17.66 in 2002. The 2.8% increase between 2001 and 2002 was higher than the average annual growth in the consumer price index in 2002 (2.2%).
- Part-time employment grew by 7.7% (213,000) between December 2001 and December 2002, the largest annual increase since 1981.
- Although seven provinces increased their minimum wage in 2002, the proportion of employees paid at this level was 4.7%, down slightly from the previous year (-0.1%).
- The majority of jobs with the largest gains were full-time and had an average weekly wage higher than for all employees.

### ■ The retirement wave

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- In the education and health-care sector, 64% of men and 63% of women were 40 years of age or older in 1999.
- Retail trade and consumer services occupied the opposite end of the age spectrum; 32% of men and 36% of women were less than 30.
- Managers comprise the oldest, most experienced group of employees. In 1999, 90% of managers had 10 years or more experience, and 55% were aged 40 or older. In comparison, only 35% of marketing and sales employees had reached age 40.

- With an estimated retirement rate of 121 per 10,000, education stood out as the industry with the highest rate of retirement in 1999.

### ■ Men 55 and older: Work or retire?

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- In 2001, nearly 220,000 men aged 55 to 59 were not active in the labour market.
- The proportion of those not in the labour force rose for men aged 55 to 64 over the 1976 to 2001 period. The increase among men 55 to 59 is significant given their life expectancy and because they are below the age of eligibility for the Canada and Quebec Pension Plans.
- In 1976, labour market inactivity among men aged 55 to 59 was almost exclusively a domain of less-educated men. By 2001, the inactivity rate of men with a university degree was almost equal to that of men with only elementary education.
- While a majority had been inactive for more than a year, a smaller proportion left their last job in the previous 12 months. In 2001, a majority of those who had worked in the previous 12 months left for reasons of retirement, followed by economic conditions (business conditions, layoff, etc.) A smaller proportion cited own illness or disability.

### ■ Older workers and the labour market

... p. 55

- Retirement as a self-reported event appears to be relatively infrequent. Only about 51% of men and 30% of women in the study population had retired from a job by age 65.
- Older workers experienced considerable job turnover. Between ages 50 and 65, the average number of job separations per worker was 3.2 for men and 2.6 for women.



- Job separation rates for older workers were similar to those of much younger workers. However, older workers had less chance of becoming re-employed. Rates of reemployment after one year declined steadily after age 25.

## ■ Profiling RRSP contributors ... p. 59

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- People most likely to be RRSP contributors include those with investments outside registered plans and those with contributing spouses.
- When other factors are held constant, younger people are more likely to contribute than older people, and self-employed people are more likely to contribute than their employed counterparts.
- Among employees, those with pensions are more likely to contribute at low incomes, but the trend is reversed at high incomes.
- High personal income is an important predictor of participation, but having a higher-income spouse with RRSP room may reduce a person's likelihood of contributing.
- Women are more likely contributors than men, except when both spouses have RRSP room. However, the presence of children affects women's likelihood of contributing more than men's. Children in general are associated with a decreased likelihood of contribution, but having children 18 and over in the home may increase it.

- With everything else being equal, people in legal marriages are usually more likely to contribute than people in common-law relationships—the sole exception being women whose partners have RRSP room.

## ■ What's new?

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### ■ Just released

Understanding the rural-urban reading gap

"A profile of disability in Canada" and *A new approach to disability data: Changes between the 1991 Health and Activity Limitation Survey (HALS) and the 2001 Participation and Activity Limitation Survey (PALS)*

Wage progression of less skilled workers in Canada: evidence from the SLID 1993-1998

Do the falling earnings of immigrants apply to self-employed immigrants?

2001 Census: Language, mobility and migration

Household spending, 2001

*Rural and Small Town Canada Analysis Bulletin: "Immigrants in rural Canada"*

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# 2002—a good year in the labour market

Geoff Bowlby

**F**OR THE LABOUR MARKET, 2002 was another year that defied expectations. Few had expected it to improve, but improve it did—dramatically.

In its original 2002 forecast, the Organisation for Economic Co-operation and Development (OECD) predicted employment growth of 1.3%, a forecast that was later revised to 1.6% (OECD 2001; OECD 2002). But the actual increase came in even higher—on an annual average basis, employment grew 2.2% in 2002. Comparing December with December (the focus in this article), the increase was even more pronounced.

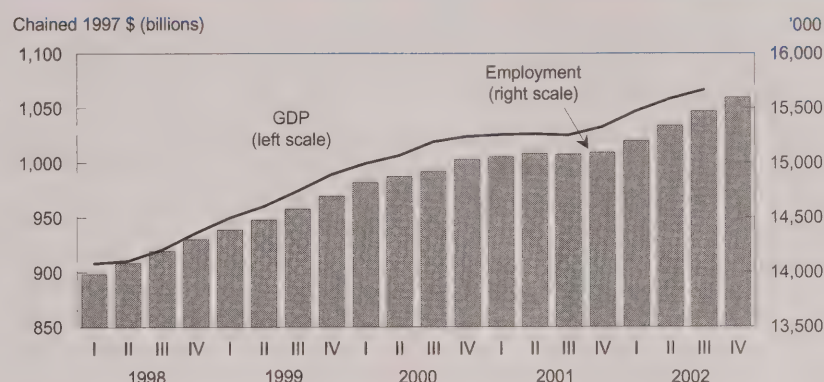
## Record employment rate

By the end of 2002, employment had jumped 560,000 (3.7%) from where it began the year (Chart A). In December, the proportion of the working-age population employed was 62.4%, the highest on record.

As a result, the unemployment rate fell half a point to 7.5%. Had it not been for a large jump in labour market participation, the rate would have dropped more (Chart B). At the end of the year, the participation rate hit 67.5%, up a full point for the year, tying the high of January 1990.

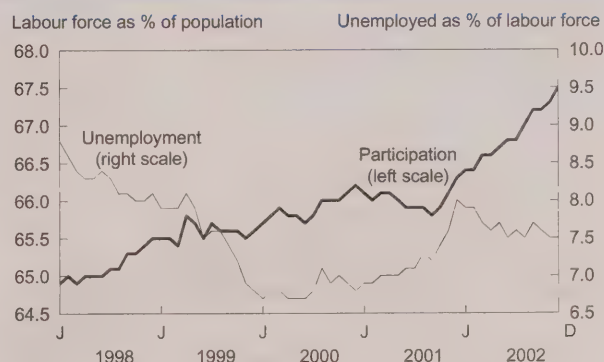
A strong economy was behind the well-rounded improvement in the labour market. Between the third quarter of 2001, when the economy was at its low point for that year, and the third quarter of 2002, gross domestic product increased 4.0%. Consumer and gov-

**Chart A: Employment soared in 2002, boosted by renewed economic growth**



Sources: Labour Force Survey; System of National Accounts, seasonally adjusted

**Chart B: A sharp rise in participation checked the decline in the unemployment rate.**



Source: Labour Force Survey, seasonally adjusted

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2002—a good year in the labour market

ernment spending maintained the strong pace of 2001 while business spending remained slow. In 2002, however, housing and exports picked up considerably.

### Most industries hired, especially manufacturing

Firms in most industries were hiring in 2002, but the largest gain came in manufacturing, where the ranks of the employed jumped 125,000 (5.6%), a sharp contrast to the 112,000 (-4.8%) decline in 2001 (Table 1). Since factory employment is very sensitive to general economic conditions, manufacturing was the main source of both the weakness in 2001 and the strength in 2002 (Chart C).

Within manufacturing, the gains were widespread, but the largest increases for the year came in food manufacturing and machinery production.

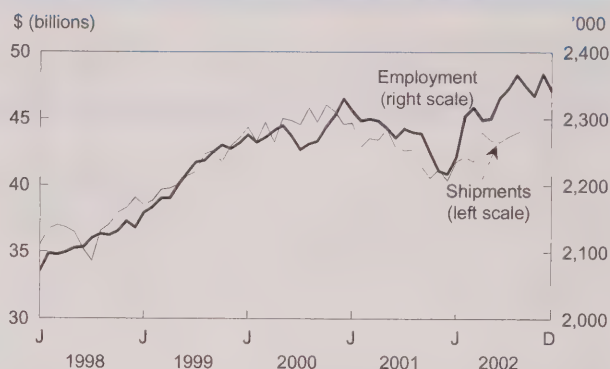
Compared with December 2001, employment in food processing was up 23,000 (9.8%), with broadly based gains in the type of food production. The Survey of Employment, Payroll and Hours indicated the largest employment gains at plants producing dairy products, seafood, meat products, and bakery products. After motor vehicles and parts, food manufacturing was the second largest factory employer in 2002.

**Table 1: Employment by industry**

	December 2002	Change from 2001	
	'000	%	
<b>Total employed</b>	<b>15,649.8</b>	<b>559.6</b>	<b>3.7</b>
<b>Goods-producing sector</b>	<b>4,011.9</b>	<b>220.5</b>	<b>5.8</b>
Agriculture	355.2	42.5	13.6
Forestry, fishing, mining, oil and gas	270.2	-20.7	-7.1
Utilities	133.2	11.5	9.4
Construction	911.0	62.4	7.4
Manufacturing	2,342.2	124.8	5.6
<b>Services-producing sector</b>	<b>11,637.9</b>	<b>339.1</b>	<b>3.0</b>
Trade	2,446.2	13.7	0.6
Transportation and warehousing	765.7	20.0	2.7
Finance, insurance, real estate and leasing	903.5	30.7	3.5
Professional, scientific and technical services	1,021.0	51.3	5.3
Management, administrative and support	612.2	43.2	7.6
Educational services	1,050.0	79.3	8.2
Health care and social assistance	1,654.5	89.7	5.7
Information, culture and recreation	693.1	-3.7	-0.5
Accommodation and food services	1,015.9	24.7	2.5
Other services	694.9	-3.3	-0.5
Public administration	780.9	-6.6	-0.8

Source: Labour Force Survey, seasonally adjusted

**Chart C: Manufacturing shipments and employment rebounded sharply in 2002.**



Sources: Labour Force Survey; Monthly Survey of Manufacturing, seasonally adjusted

Machinery manufacturing employment expanded 19,000 (16.6%) in 2002. This industry, which largely supplies other manufacturers as well as the construction industry, enjoyed a rebound from 2001, when employment fell by 6.6% as industrial production in Canada and the United States declined significantly.

Although it ended the year on a negative note, the automotive sector helped drive the upward trend in manufacturing for much of 2002. During the January to October period, motor vehicle shipments in Canada were 7.6% higher than the same period a year earlier. Growth in U.S. automotive shipments was also very strong—up 9.9% in the first 10 months of the year. As a result, Canadian parts plants expanded output to feed the increased production at North American assembly plants, jumping 10.1% in the 10 months.

Early in the year, the added production had a notable effect on employment. By August, automotive and parts employment was over 15% higher than a year earlier. However, as sales softened in the United States in the last quarter of



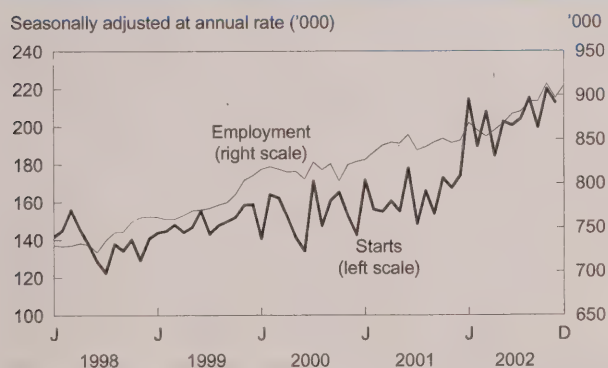
the year, automobile inventories began to increase, resulting in the need to slow or halt assembly at a number of plants.

In December, automotive layoffs increased markedly, as Ford temporarily closed its Oakville van plant and its facilities in St. Thomas, shutdowns expected to last into January. General Motors also began layoffs in December at its Ingersoll, Ontario, facility. Furthermore, DaimlerChrysler announced in December that it would close all three of its assembly operations for part of January, 2003. The temporary shutdown of these large facilities likely had a significant spin-off effect on employment at parts suppliers. In total, employment in motor vehicles and parts fell 21,000 in December alone, eliminating all the gains made earlier in the year.

### Housing boom and manufacturing gains drove jobs for adult men

As mentioned, residential investment took off in 2002. According to Canada Mortgage and Housing Corporation, new housing starts in November were up a remarkable 27.0% from the same month in 2001 (Chart D). As a result, employment in construction jumped 62,000 or 7.4% during 2002. The housing boom also led to some significant spin-off employment in furniture manufacturing and retailing, building material retailing, real estate sales, and banking.

**Chart D: Construction jobs continued to climb, aided by a surge in housing starts.**



Sources: Labour Force Survey, seasonally adjusted; Canada Mortgage and Housing Corporation

**Table 2: Selected labour market estimates for major age-sex groups**

	December 2002	Change from 2001	
	'000		%
<b>Employment</b>	<b>15,649.8</b>	<b>559.6</b>	<b>3.7</b>
Men	8,359.8	270.6	3.3
15 to 24	1,224.4	59.2	5.1
25 and older	7,135.3	211.2	3.1
Women	7,290.0	289.0	4.1
15 to 24	1,180.1	45.0	4.0
25 and older	6,109.9	244.0	4.2
<b>Unemployment</b>	<b>1,275.9</b>	<b>-42.9</b>	<b>-3.3</b>
Men	729.7	-36.1	-4.7
15 to 24	218.7	-1.3	-0.6
25 and older	511.0	-34.8	-6.4
Women	546.2	-6.8	-1.2
15 to 24	149.6	-4.8	-3.1
25 and older	396.7	-1.9	-0.5
<b>Unemployment rate</b>	<b>7.5</b>		<b>-0.5</b>
Men	8.0		-0.6
15 to 24	15.2		-0.7
25 and older	6.7		-0.6
Women	7.0		-0.3
15 to 24	11.3		-0.7
25 and older	6.1		-0.3

Source: Labour Force Survey, seasonally adjusted

The gains in manufacturing and construction had a major effect on employment among adult men. In 2002, overall employment increased 211,000 (3.1%), with 47% of the increase occurring in manufacturing or construction. This drove the unemployment rate for adult men down 0.6 points to end the year at 6.7% (Table 2).

### Adult women benefited from health and education spending

Employment for adult women jumped 244,000 (4.2%) in 2002. While 20% of the increase came from manufacturing, more significant gains were made in health care and social assistance, as well as in education. By the end of the year, the unemployment rate for adult women was 6.1%, down 0.3 points.

Non-defence government spending was up 2.8% between the third quarters of 2001 and 2002. The employment data suggest that much of that spending went to hire staff at hospitals, schools, and in the

federal government, pushing the ranks of the public sector up 120,000 (4.2%) to a level not seen since 1993.

In a year that the Canadian Institute for Health Information forecast health care spending to be up 6.3% to \$112.2 billion, employment in health care and social assistance increased 90,000 (5.7%), the largest increase since 1989. Since 1997, health care spending has risen 30%, compared with gains of only 6% in the 1992-1996 period. Employment in the industry, meanwhile, jumped 19% in the last five years, up considerably from the 5% increase from 1992 to 1996.

Strong gains were made in all areas of the health care and social assistance industry in 2002. Social assistance groups, hospitals, nursing homes and ambulatory care facilities all stepped up hiring. By the end of 2002, the number of female nurses had increased 21,000, a jump of almost 10%.

A considerable number of adult women were also hired as teachers (21,000 or 5.8%). In 2002, employment in education jumped 79,000 (8.2%), a significant change from the payroll cuts in 2000 and the flat trend in 2001. The largest increases came in Ontario and Quebec, where education spending was expected to rise by 2.3% and 5.7% respectively in 2002-2003.

Employment in public administration was essentially unchanged in 2002 (-0.8%), but only because large gains at the federal level were offset by losses in local government. Between December 2001 and December 2002, federal gov-

ernment employment increased 19,000 (7.0%), while local government employment fell by a similar amount. Adult women enjoyed the lion's share of the increase in federal government employment (17,000). Together, health care, manufacturing, education, and public administration accounted for 52% of the employment gain for adult women.

### More part-time jobs for youth

The general improvement in the labour market extended to youths in 2002. Youth employment increased 104,000 (4.5%) between December 2001 and December 2002. While retail and wholesale trade employment was little changed for the year, a large increase in youth employment in the industry was offset by losses among adults. Youth employment in restaurants and bars also expanded in 2002. At the end of the year, their unemployment rate was

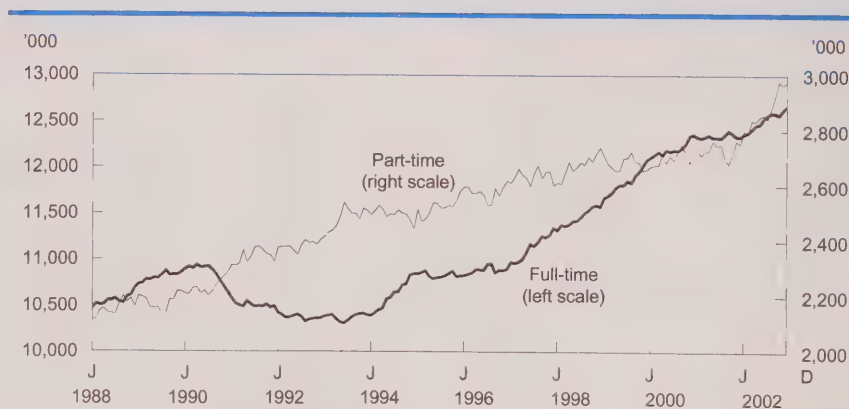
13.3%, down 0.7 percentage points.

Youth employment expanded in 2002, in part because of the greater availability of part-time jobs (Chart E).

Overall, part-time work increased by a considerable 223,000 (8.1%), with a third of that gain coming in retail and wholesale trade, or accommodation and food. A smaller but still notable proportion of the part-time increase came from the education and health care sector.

Part-time employment growth was strong, but the increase in full-time was healthy as well. All of the increase in manufacturing and construction employment came in the form of full-time work, helping push full-time up 336,000 or 2.7%. The year before, in 2001, full-time employment fell 26,000 (-0.2%).<sup>1</sup>

**Chart E: Part-time jobs increased strongly in 2002, but so did full-time.**



Source: Labour Force Survey, seasonally adjusted



## Hours worked up, productivity too

After scaling back on hours during the previous year, employers were more likely to hand out overtime cheques in 2002. In December 2002, 2.9 million employees were working overtime, an increase of over half a million from the same month a year earlier. This, combined with the strong employment growth, helped drive the total number of hours worked in Canada to 523 million in December, an increase of 3.3% over December 2001.

While employers were hiring and making greater use of overtime, private-sector employees were also more productive. From the third quarter of 2001 to the third quarter of 2002, labour productivity increased 2.6%, comparable with the above-average annual growth rates recorded in 1999 and 2000. Although median hourly wages rose 2.4% in 2002, increased productivity meant that the cost per worker for employers—unit labour costs—was essentially unchanged for the year.

Flat labour costs undoubtedly helped the bottom line for corporations in Canada, whose profits were up sharply in 2002. Profits jumped 9.2% in the first quarter, followed by a surge of 13.0% in the second quarter, and a modest 2.6% in the third.

Productivity gains in Canada were positive, but not as large as the changes in the United States. Economic growth in the U.S. was 3.2% between the third quarters of 2001 and 2002, but employment growth was anemic. As a result, output per hour worked in the U.S. shot up 5.6%, much greater than the gain in Canada.

## Canadian labour market in better shape

The greater U.S. labour productivity gain was perhaps the only negative point of comparison between the Canadian and American labour markets. As employment rose in Canada throughout the year while eking out only weak gains in the United States, the persistent gaps in employment and participation rates disappeared. By November, a greater proportion of Canadians than Americans were employed (Chart F). The Canadian unemployment rate was higher than that in the U.S. throughout 2002, but only because Canadians were more likely than Americans to be looking for work.<sup>2</sup>

## Employment gains widespread

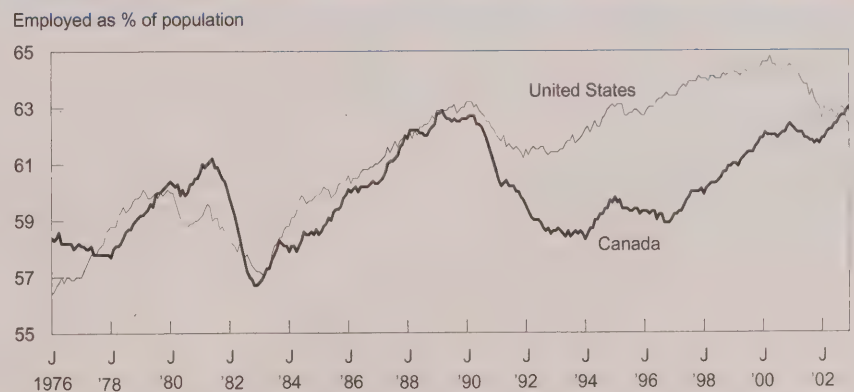
Employment increased in almost every province in 2002, but almost two-thirds of the gains were in Ontario or Quebec (slightly greater than their share of the population).

In the first half of the year, the story was in Quebec, where employment increased by 128,000 or 3.7% from January to June. In the next six months, the national trend was driven by Ontario and its 129,000 (2.1%) new jobs.

At the end of the year, employment was up significantly in both provinces. In Ontario, the year saw gains of 3.3% (196,000), a contrast to 2001 when the increase was only 0.2%. Even though employment in Ontario was sharply improved in 2002, the unemployment rate ended the year at 7.0%, up slightly from where it began in January.

In Quebec, employment ended the year up 168,000 (4.8%), capping its best year on record. The strong employment gains pushed the unemployment rate to 8.4%, down from 9.7% at the start of the year. In December, the proportion of the population in Quebec that was employed, 60.3%, was the highest since at least 1976.<sup>3</sup>

**Chart F: The Canadian employment rate surpassed the U.S. rate in November 2002.**



Sources: Labour Force Survey (Canada); Current Population Survey (United States), seasonally adjusted

Almost two-thirds of the employment gain in Quebec occurred in Montréal, where employment jumped 108,000 (6.4%). This caused the unemployment rate in the city to drop 1.4 points to 8.4% and the employment rate to leap 3 points to 63.0%.

Although employment in Montréal increased by more than it did in Toronto, the labour market in Toronto in 2002 was still very strong. However, while employment in Canada's largest city increased 75,000 (2.9%) in 2002, the unemployment rate stayed at 7.0%. Since Toronto's employment growth was slightly larger than its robust population growth, the employment rate increased marginally (0.1 points) to hit 65.1% at the end of the year.

Both Ontario and Quebec had employment gains in the same four industries: manufacturing, construction, education, and health care and social assistance. With manufacturing shipments up 5.1% in Quebec and 10.9% in Ontario, factory employment in each province expanded by over 5%. Housing starts were up strongly in both provinces, but especially in Quebec where they were 55% higher in November than a year earlier. The added construction activity meant an extra 20,000 (14.2%) construction workers were employed in Quebec by the end of 2002, with another 23,000 (6.6%) added in Ontario.

Employment growth was also strong in British Columbia (81,000 or 4.2%) between December 2001 and December 2002. The unemployment rate for British Columbia was 8.3% at the end of 2002, down 1.4 points for the year. Since the increase in 2002 was a rebound from the large declines of the previous year, by December, employment in the province was only slightly higher (20,000 or 1.0%) than two years earlier.

Like many other provinces, British Columbia gained from the construction boom and the resurgence in manufacturing. In November, housing starts were up 51% from the same month a year earlier, leading to job gains of 16,000 (15.3%) in construction. As well, factory employment increased by 22,000 (12.1%) as manufacturers in the province increased output 8.6% between October 2001 and the same month in 2002. The increase in construction and manufacturing activity may have had spin-off effects on employment in two related areas: finance, insurance and real estate (20,000 or 18.7%); and transportation (15,000 or 15.1%).

Almost all of the increase in jobs in British Columbia was in the lower mainland area. Within that region, Vancouver had an additional 63,000 employed people at year-end, an increase of 6.1%, enough to push the unemployment rate in that city to 7.8% in December (-1.3 points). In contrast, employment in Victoria, where civil service cuts were felt in 2002, fell 1.5%, causing the unemployment rate to rise 0.7 points to 6.8% by December.

Labour market conditions in Alberta continued their long-term improvement in 2002. Employment increased 63,000 (3.9%). Because of added labour market participation, the unemployment rate in the province, at 5.1%, was unchanged for the year. Over half of the gains over 2002 were in the Edmonton area.

The share of working age Albertans who were employed at year-end was 69.8%, far higher than in any other province. In fact, the employment rate in Alberta ranked very high among all North American jurisdictions. In November, only Minnesota, Nebraska, Wisconsin, Iowa, and South Dakota in the United States had higher employment rates than Alberta.

Although oil and gas employment in Alberta increased sharply in the last quarter of 2002, it ended the year down 16,000 (-14.4%). A lag normally occurs between changes in oil prices and oil patch employment; the job gains late in the year were in response to the upward trend in oil prices that began at the start of the year. Gains in agriculture, manufacturing and construction were more than enough to offset the losses in oil and gas, leaving the broader goods-producing sector in the province up 3.7% (17,000). The services sector in Alberta expanded at a similar rate (3.9%).

Employment in Saskatchewan rebounded significantly from the declines in 2001. In that province, employment jumped 26,000 or 5.5%, the fastest rate of growth of any province. While the labour market in Saskatoon improved considerably in 2002, it failed to do so in Regina. In Saskatoon, the unemployment rate fell half a point to 6.4% in December, and the employment rate hit 67.0% at year-end, a jump of 3.9 points. In Regina, the unemployment rate was essentially unchanged at 5.4% but the employment rate slipped 0.2 points to 68.4%.



The only other province where employment grew faster than the rate of growth for the nation as a whole was New Brunswick. In that province, an additional 13,000 (3.9%) people were employed by December, dropping the unemployment rate 1.2 points to 10.2% and pushing the employment rate to 57.5% (1.9 points).

### Perspectives

### Notes

- 1 See a forthcoming *Perspectives* article by M. Tabi and S. Langlois for more detail on the quality of job growth in 2002.
- 2 For more information, see “The labour market: Up north, down south” by G. Bowlby and J. Usalcas in the December 2002 online edition of *Perspectives*.
- 3 The Labour Force Survey began in 1946 but has changed the way it measures employment and unemployment. The current data are compatible only with those collected since 1976.

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# The labour market: Up north, down south

Geoff Bowlby and Jeannine Usalcas

*Unless otherwise noted, all data are seasonally adjusted and as of December 3, 2002.*

**F**EW MAJOR ECONOMIES are as intertwined as those of Canada and the United States. In fact, they are often viewed as one common North American economy—and with good reason. During the recessions of the 1980s and 1990s, when the U.S. economy suffered, so did the Canadian—and to a greater degree. Indeed, it is often said that when the United States catches a cold, Canada gets the flu.

With the introduction of the Canada-U.S. Free Trade Accord and then NAFTA, some expected that the inevitable progression of economic linkages would leave Canada even more susceptible to the ups and downs of the American economy. However, the very rapid expansion of the economy and labour force in Canada in 2002 stands in contrast to the relative stagnation south of the border.

While the U.S. went into official recession in 2001, Canada showed only one quarter during which its economy shrank. Not since 1974 has the economy grown in Canada while contracting in the United States. Not only was 2001 much worse for the American economy, which bottomed out in the third quarter, but since then economic growth has been stronger in Canada.

The divergence is even more apparent in labour market trends than in the overall economic trends. While Canadian employment eked out a small gain in 2001 and saw an explosive growth in the first half of 2002, U.S. employment dropped sharply in 2001 and was flat for the first half of 2002. This article documents and helps explain the key economic and labour market trends in both countries.

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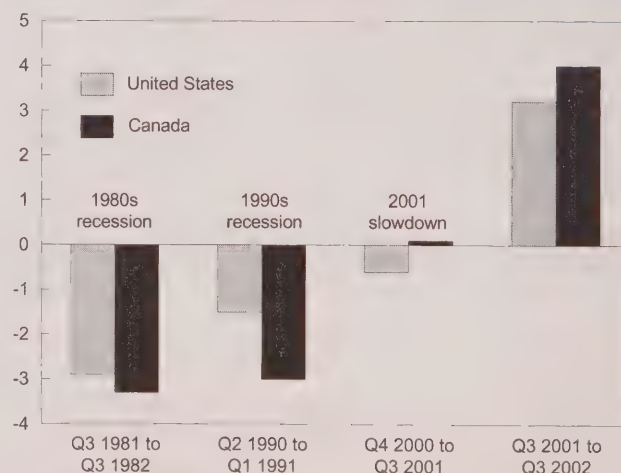
## The North American economy slipped in 2001, mostly in the United States

The 2001 economic contraction in the United States was unique in that it did not seem to affect Canada as much as past downturns (Chart A). In the downturn of the early 1980s,<sup>1</sup> the U.S. economy shrank by 2.9%, while gross domestic product (GDP) in Canada decreased 3.3%. During the early 1990s, a similar story occurred. GDP in the U.S. fell 1.5%, much less than the 3.0% drop in Canada.

But during the 2001 downturn in the United States, the Canadian economy expanded slightly. While GDP in the U.S. declined 0.6% between the last quarter of 2000 and the third quarter of 2001, it actually increased by 0.1% in Canada. This was much slower than growth during the 1997 to 2000 period, but growth nevertheless.

**Chart A: The 2001 economic slowdown in the U.S. affected Canada less than past downturns.**

Change, GDP in chained \$, at annual rates (%)



Sources: Statistics Canada; United States Bureau of Economic Analysis



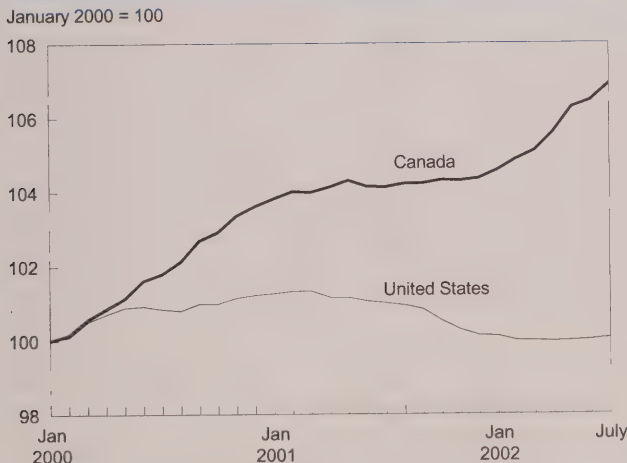
Not only did Canada fare better than the U.S. in the first three quarters of 2001, but when both economies began to pick up in the fourth quarter, Canada's economic growth was much stronger. From the third quarter of 2001 to the third quarter of 2002, GDP increased by 4.0% in Canada, compared with 3.2% in the United States.

### Implications for the labour market

As both economies weakened during the U.S. downturn, so too did the labour markets (Chart B). While the economy in the U.S. shrank during the first three quarters of 2001, employment contracted during the full 12 months of the year, dropping 1.1% (-1.4 million). During the same period in Canada, payroll employment increased by a scant 0.9% (+108,000).<sup>2</sup>

The weakened job situation caused unemployment rates to rise in both countries. As the Canadian rate (see *Unemployment*) increased from 6.0% to 7.1% at year-end, the rate in the U.S. rose from 4.0% to 5.8%. Had it not been for a drop in labour force participation in the U.S., the U.S. unemployment rate would have increased by more. In Canada, labour force participation ended the year unchanged (Chart C).

**Chart B: During the U.S. downturn, Canadian employment was flat, while U.S. employment was down sharply. Since then, employment in Canada has rebounded.**



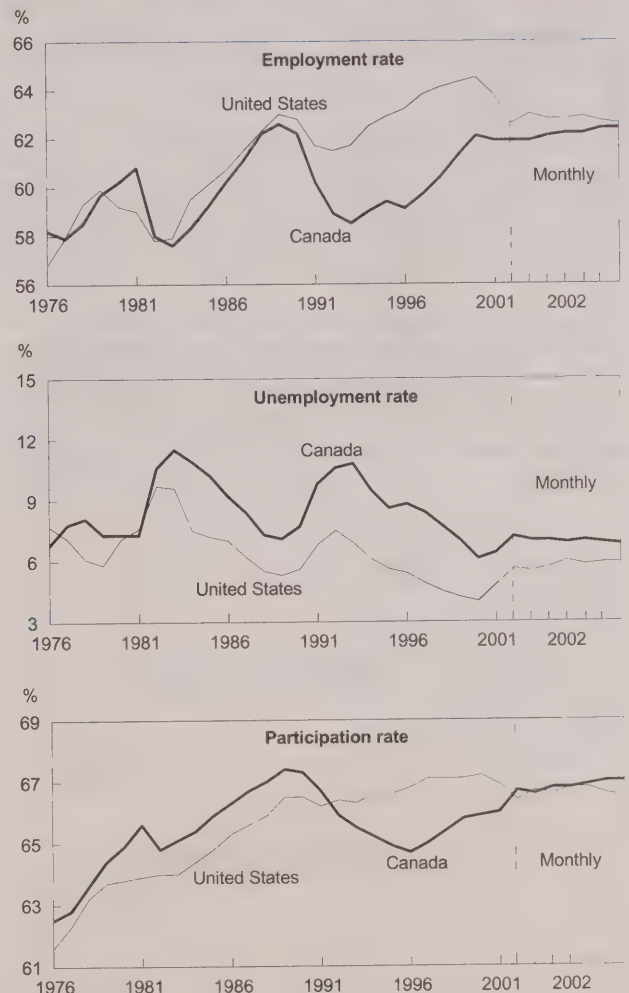
Sources: Survey of Employment, Payrolls and Hours (Canada); Current Employment Statistics (United States)

### Unemployment

Throughout this article, the Canadian rate has been adjusted to be closer to U.S. concepts of unemployment. For more information on how these adjustments were made, see the Autumn 1998 issue of *Labour Force Update* (Statistics Canada catalogue no. 71-005-XPB).

As a result of the relative strength of the Canadian economy in 2002, significant employment gains were made, but in the United States the employment trend

**Chart C: By mid-2002, virtually all of the unemployment rate gap could be accounted for by Canada's higher participation rate.**



Sources: Labour Force Survey (Canada); Current Population Survey (United States)

was flat. In the first seven months of the year, employment in Canada increased 290,000 (+2.3%) while in the U.S., it was down 99,000 (-0.1%). The unemployment rate in Canada declined as a result, hitting 6.8% by July, down 0.3 percentage points from December 2001. In the U.S., the unemployment rate in July was 5.9%, up slightly from 5.8% at the start of the year.

The continued strength in the Canadian labour market and weakness in the U.S. narrowed the employment rate gap between the two. For nine years (1992 to 2000), the difference between the Canadian and U.S. employment rates was 2 to 4 percentage points. By July 2002, the gap had narrowed to 0.2 percentage points, the smallest since 1988.

These labour market changes also affected rates of participation, as a greater percentage of Canadians than Americans were in the labour market by mid-2002. The last time the Canadian participation rate was higher was in 1991.

### Why was this downturn so different?

Compared with the 1990s recession, the 2001 contraction of the economy was much milder—to a large extent because North American consumers continued to spend. The 1990s recession, on the other hand, was

characterized by a drop in consumer spending and housing demand in the United States, and an outright collapse in Canada.

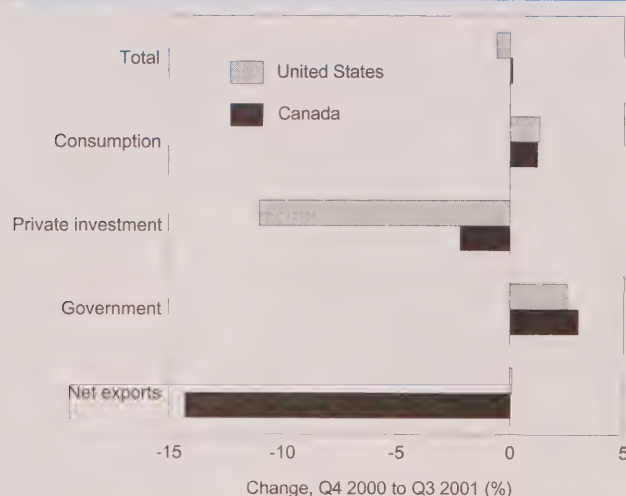
The main drag on the two economies in 2001 was the reduction in business spending (Chart D). In the U.S., the drop in private investment was much deeper. By the end of the third quarter of 2001, private investment in the United States had fallen 11%, much more than the 2% drop in Canada.

### Falling business investment directly affects the labour market...

Falling business investment had some direct effect on the labour markets in both countries, but more so in the United States. Employment in the manufacture of industrial machinery and electronic products in Canada fell by 7.1% between December 2000 and December 2001—a large drop, but not as big as the 11.0% slide in the United States.

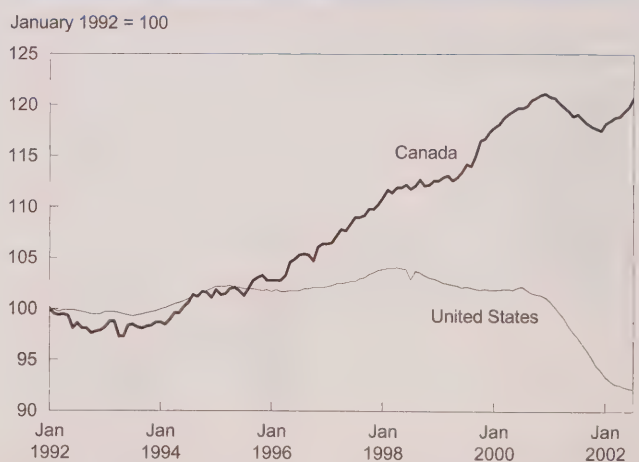
Overall, manufacturing was one of the main sources of divergent trends in employment in 2001 (Chart E). In the U.S., where manufacturing employment growth had been very weak for a number of years, manufacturing employment dove 7.1% (-1.3 million), but in Canada it fell only 3.0% (-61,000).

**Chart D: A large drop in private investment put a greater drag on the U.S. economy in 2001.**



Sources: Statistics Canada; United States Bureau of Economic Analysis

**Chart E: U.S. manufacturing employment fell considerably in 2001, Canada's less so.**



Sources: Survey of Employment, Payrolls and Hours (Canada); Current Employment Statistics (United States)



### ....but machinery and equipment manufacturing employment not the only source of divergence

Much of the divergence resulted from the smaller decline in industrial machinery and electronic product employment—not from differing trends in auto and auto parts employment (Table 1). In the U.S., sales of automobiles and light trucks fell somewhat through 2000 and into 2001. As a result, production at U.S. and Canadian plants slowed and employment fell. In both countries, employment in transportation equipment dropped 6.2% in 2001. In the United States, transportation equipment employment had already been on a downward trend since late 1998 but in Canada, employment in the industry had been rising.

In line with declining automotive production, employment at metal producers fell in both countries in 2001, but the decline in Canada (-2.6%) was significantly less than in the United States (-8.0%). In the face of increased international competition and falling profits, numerous U.S. steel companies filed for Chapter 11 bankruptcy in 2001—most notably, Bethlehem Steel.<sup>3</sup>

**Table 1: Employment change by industry\***

	December 2000 to December 2001			
	Canada	U.S.	Canada	U.S.
	'000		%	
<b>Industrial aggregate</b>	<b>107.5</b>	<b>-1,429.0</b>	<b>0.9</b>	<b>-1.1</b>
Mining, oil and gas	3.8	15.0	2.8	2.7
Construction	49.9	-35.0	9.0	-0.5
Manufacturing	-61.4	-1,310.0	-3.0	-7.1
Textiles and apparel	1.6	-147.0	1.0	-12.4
Rubber and plastics	1.1	-66.0	0.9	-6.6
Metal products	-7.7	-178.0	-2.6	-8.0
Transportation equipment	-15.2	-113.0	-6.2	-6.2
Machinery and equipment	-21.1	-522.0	-7.1	-11.0
Other manufacturing	-19.9	-284.0	-2.1	-3.8
Utilities	1.0	-8.0	0.9	-0.9
Trade	11.2	-367.0	0.5	-1.2
Transportation and warehousing	-1.8	-225.0	-0.3	-4.9
Finance, insurance and real estate	1.8	115.0	0.2	1.5
Services	102.0	-77.0	1.9	-0.2
Public administration	0.9	463.0	0.1	2.2

Sources: Survey of Employment, Payrolls and Hours (Canada);  
Current Employment Statistics (United States)

\* See Industry concordance.

The greater decline of the U.S. manufacturing sector had larger, negative, spin-off effects in the transportation industry. In the U.S., transportation employment fell 4.9% compared with only 0.3% in Canada. In 2001, trucking employment in the U.S. dropped 1.7% while increasing 3.3% in Canada.

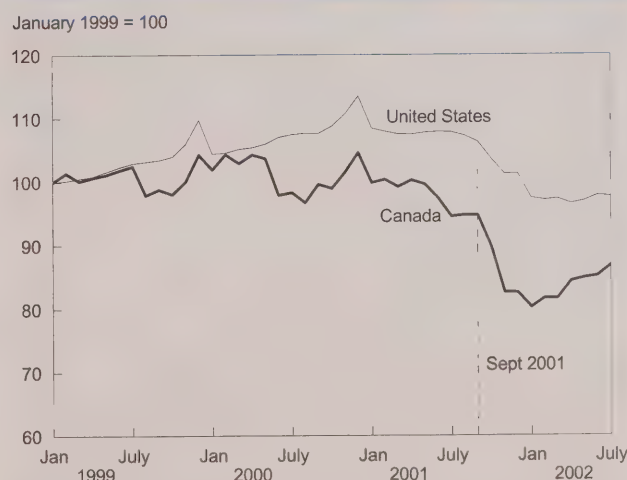
### Earlier adjustments in the Canadian airline industry

The gain in trucking employment in Canada was enough to offset the drop in air transportation, a drop that was proportionately larger in Canada than in the United States. In Canada (Chart F), the air transportation industry began to cut back staff early in the year, beginning a downward trend that undoubtedly accelerated after the collapse in travel following September 11. In the U.S., almost all of the year's losses occurred in the September to December period, when the Bureau of Labor Statistics noted the largest air transportation employment decline on record.

### Who was most affected in 2001?

With the employment loss in the United States (-1.1%) and weak growth in Canada (+0.9%) came increased unemployment rates in both countries in 2001 (Table 2).

**Chart F: The decline in air transportation employment in 2001 was larger in Canada.**



Sources: Survey of Employment, Payroll and Hours (Canada);  
Current Employment Statistics (United States).  
Unadjusted for seasonality.

In the U.S., the rate increased 1.8 percentage points to end the year at 5.8%, while in Canada the rate increased 1.1 points to 7.1%.

Youths were particularly hard hit in 2001 in both countries, but more so in the United States. The youth unemployment rate in the U.S. leapt 2.7 percentage points to 11.9%. The Canadian rate, although higher, increased by a more moderate 1.4 percentage points to 12.9%.

**Table 2: Selected labour force rates**

	December 2000	December 2001	July 2002
	%		
<b>Unemployment rate</b>			
<b>Canada, 16 and over</b>	<b>6.0</b>	<b>7.1</b>	<b>6.8</b>
Men	6.3	7.8	7.2
Women	5.8	6.4	6.3
16 to 24	11.5	12.9	12.4
25 to 54	5.2	6.2	5.9
55 and over	3.7	5.4	4.8
<b>United States</b>	<b>4.0</b>	<b>5.8</b>	<b>5.9</b>
Men	4.1	5.8	6.0
Women	3.9	5.8	5.7
16 to 24	9.2	11.9	12.3
25 to 54	3.0	4.7	4.8
55 and over	2.5	4.0	3.7
<b>Employment rate</b>			
<b>Canada, 16 and over</b>	<b>62.4</b>	<b>61.7</b>	<b>62.4</b>
Men	68.7	67.5	68.3
Women	56.4	56.1	56.8
16 to 24	61.5	60.2	61.0
25 to 54	80.1	79.4	80.3
55 and over	24.7	25.2	26.1
<b>United States</b>	<b>64.5</b>	<b>63.0</b>	<b>62.6</b>
Men	71.6	69.9	69.5
Women	57.9	56.5	56.3
16 to 24	60.0	56.0	55.2
25 to 54	81.4	79.8	79.1
55 and over	31.6	32.2	33.4
<b>Participation rate</b>			
<b>Canada, 16 and over</b>	<b>66.4</b>	<b>66.4</b>	<b>67.0</b>
Men	73.3	73.1	73.6
Women	59.8	60.0	60.6
16 to 24	69.5	69.1	69.7
25 to 54	84.5	84.6	85.4
55 and over	25.6	26.6	27.4
<b>United States</b>	<b>67.2</b>	<b>66.8</b>	<b>66.5</b>
Men	74.7	74.2	73.9
Women	60.2	60.0	59.7
16 to 24	66.0	63.6	63.0
25 to 54	83.9	83.7	83.1
55 and over	32.4	33.6	34.7

Sources: Labour Force Survey (Canada); Current Population Survey (United States)

The higher youth unemployment rate in Canada was a reflection of greater labour market participation. In fact, a higher proportion of Canadian youth was employed (60% compared with 56%) by December 2001, suggesting an economy in Canada more favourable to youths.

Youth participation rates declined by 2.4 percentage points in the United States compared with 0.4 in Canada (Chart G). By the end of 2001, Canadian youth participation stood at 69.1%, much higher than the 63.6% in the United States.

Two factors more than likely account for the high numbers of American youth not participating in the labour market in 2001. Most importantly, the United States experienced a much stronger labour market contraction. With fewer skills and experience, young workers are among the first to be let go.

Secondly, demographics may have played a role. The American youth population has been growing at a faster pace since 1996 (Chart H). From December 2000 to December 2001, it grew by 1.8% compared with only 0.6% in Canada. An increasing youth population in a very tough labour market translates to greater competition for fewer jobs.

**Chart G: Youth participation rates have been higher in Canada for over three years.**

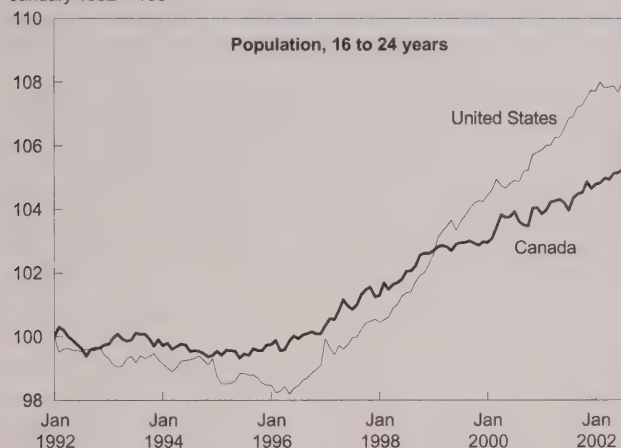


Sources: Labour Force Survey (Canada); Current Population Survey (United States)



**Chart H: Youth population has risen much faster in the U.S., contributing to a more competitive job market for young people.**

January 1992 = 100



Sources: Labour Force Survey (Canada); Current Population Survey (United States)

## Core-age workers

The unemployment rate for core-age workers (25 to 54) increased 1.7 percentage points in 2001 in the U.S., but only 1.0 in Canada. Core-age men in both countries had similar increases, but Canadian women were better able to retain their jobs. Their unemployment rate rose only 0.5 percentage points compared with 1.8 for American women.

The participation rate for core-age workers in both countries scarcely changed in 2001. By December 2001, it had increased 0.1 percentage points to 84.6% in Canada, and decreased 0.2 percentage points to 83.7% in the United States.

## Older workers

Labour market changes for older workers (55 and over) were similar in the two countries. The Canadian unemployment rate increased from 3.7% to 5.4% between December 2000 and December 2001; the American rate, from 2.5% to 4.0%.

In both countries, the increase in unemployment rates among older workers was due entirely to rising participation. In fact, employment opportunities improved. The employment rate of American older

## Data sources

General trends in unemployment and demographic changes are from the **Current Population Survey** (United States) and the **Labour Force Survey** (Canada). Industry employment comparisons use the **Current Employment Statistics** survey (United States) and the **Survey of Employment, Payrolls and Hours** (Canada). **Local Area Unemployment Statistics** were used for state analysis. More information on the U.S. surveys can be found on the Bureau of Labor Statistics Web site at [www.bls.gov](http://www.bls.gov).

The **Current Population Survey** (CPS) is a monthly household survey with a sample size of approximately 60,000 households. It provides statistics on the labour status (employed, unemployed, and not in the labour force) and demographic characteristics of the civilian non-institutional population 16 years of age and over.

The **Current Employment Statistics** (CES) survey is a monthly, employer-based survey with a sample of over 390,000 establishments. It collects employment, hours, and earnings of payroll jobs in non-farm industries (excluding private households). Estimates from the CES survey refer only to wage and salary workers (employees).

Since the CPS sample size is not large enough to provide reliable monthly estimates for all geographic levels, the **Local Area Unemployment Statistics** (LAUS) program provides monthly estimates of employment and unemployment by geographic detail (some 6,800 areas). The official concepts and definitions are the same as those used in the CPS. Monthly estimates for states are produced using a variety of methodologies, combining current and historical data from several sources—CPS, CES and the unemployment insurance program.

The **Labour Force Survey** (LFS) is a monthly household survey, with a sample size of approximately 53,000 Canadian households. It provides estimates on the labour force status and demographic characteristics of the civilian non-institutional population 15 years of age and over. Estimates are produced at the national, provincial, and sub-provincial levels. Excluded are residents of Yukon, the Northwest Territories and Nunavut; persons living on Indian reserves; full-time members of the Canadian Forces; and inmates of institutions.

The **Survey of Employment, Payrolls and Hours** (SEPH) is the Canadian monthly establishment survey and is based on a census of administrative records (payroll deduction remittances) and the Business Payroll Survey. It collects data on the number of employees paid, payrolls, and hours at detailed industrial, provincial and territorial levels. Excluded are establishments primarily involved in agriculture, fishing and trapping; private households; religious organizations; and military personnel.

workers in 2001 increased 0.6 percentage points to 32.2% and 0.5 percentage points to 25.2% for Canadian older workers. These gains were experienced equally by men and women.

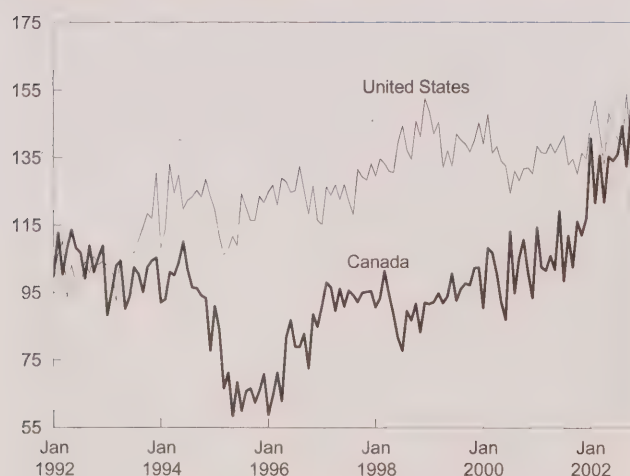
## What happened in 2002?

From the third quarter of 2001 to the third quarter of 2002, output in Canada increased 4.0%, compared with 3.2% in the U.S. Private investment by Canadian and American firms had yet to rebound in earnest, but significant improvements in residential construction and strong net export growth caused growth in Canada to be much stronger.

As stated earlier, this greater economic growth had a more positive effect on the Canadian labour market. In the first seven months of 2002, the number of employees increased 2.3% (+290,000), whereas in the United States employment during this period was flat (-0.1%). This helped the unemployment rate in Canada drop from 7.1% at the start of the year to 6.8% by July. Had it not been for a huge increase in labour market participation during this period, the unemployment rate would have fallen more. In the United States, the unemployment rate was 5.9% in July, up from 5.8% in December 2001.

**Chart I: Growth in new housing starts in Canada caught up to U.S. growth in 2002.**

January 1992 = 100 (annual rates)



Sources: Canada Housing and Mortgage Corporation; United States Census Bureau

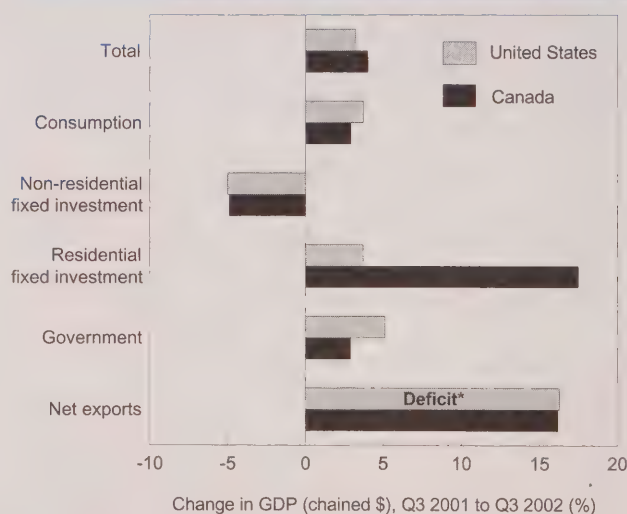
## The strength of the Canadian economy in 2002: houses and cars

January 2002 saw an explosion of housing construction in Canada as consumers reacted to very low interest rates. That month, Canadian housing starts jumped to 40% above their 1992 levels and hovered there for the first half of the year (Chart I).

The surge in housing starts in Canada led to a huge 13% increase in residential investment following the third quarter of 2001 (Chart J). In the United States, the increase was a more moderate 3%. After running behind U.S. residential investment for a number of years, Canadian investment in the second quarter of 2002 was 24% higher than in 1997, compared with a 21% gain in the U.S.

In Canada, the construction boom had a much greater effect on employment. By July, construction employment was up 1.2% since the start of the year. In the United States, construction jobs fell 1.7% in the same period.

**Chart J: The stronger rebound in Canada can be traced to more residential investment and an improved trade position.**



Sources: Statistics Canada; United States Bureau of Economic Analysis

\* Exports exceed imports in Canada, but not in the United States. Thus, the percentage change expressed in net exports in this graph represents growth in the trade balance in Canada, but growth in the trade deficit in the United States.

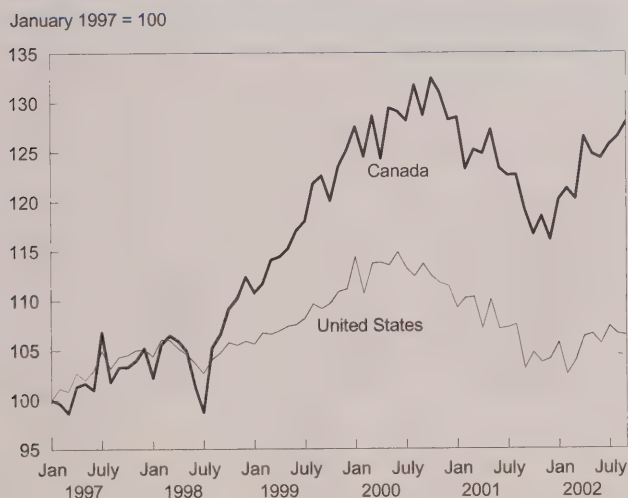


In Canada, the increase in home construction and sales spurred employment in real estate services. Much of the 3.1% increase in finance, insurance, and real estate employment can be attributed to a gain in real estate, as well as to added work at banks—perhaps a reaction to an increase in home financing.

The Canadian construction boom is not the only reason for the faster expansion here. Exports picked up, leading to a rebound in the Canadian manufacturing sector in 2002 (Chart K). Sales and production of automobiles after the third quarter of 2001 were stronger in Canada than in the United States. The rebounding automobile sector contributed greatly to the expansion in exports from Canada during this time.

Driven by low-rate financing and strong pent-up demand, the jump in car dealer sales was significant, up 9.3% to \$6.9 billion in the second quarter. This, combined with a 2.9% increase in sales at U.S. car dealers, led to greater automobile and parts production in both countries, but particularly in Canada. Here, automobile shipments jumped 10.1% after the third quarter of 2001, somewhat greater than the 7.8% increase in auto and parts production in the United States.

**Chart K: Manufacturing shipments growth was much stronger in Canada in 2002.**



Sources: *Monthly Survey of Manufacturing (Canada)*; *United States Census Bureau*

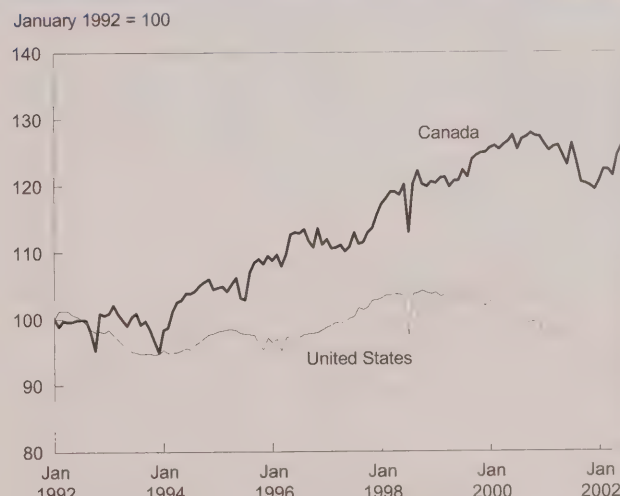
Even though car and parts sales and production increased in the United States, employment in the industry continued on the downward trend that began four years earlier (Chart L). In Canada, however, the employment gain in transportation equipment was significant. In the first half of 2002, it increased 7.0%, compared with a 2.8% drop in the United States (Table 3).

Retail and wholesale trade employment increased a considerable 3.8% in Canada, whereas it was flat in the United States in the first seven months of the year. In Canada, retail trade employment increased 4.5% between July 2001 and July 2002, and a third of this gain can be attributed to added employment at construction product retailers, furniture and appliance stores, and motor vehicle dealers.

Also related to the expansion of automobile production jobs north of the border was a 3.9% gain in metal product manufacturing jobs. In the United States, the problems in that industry persisted into the first seven months of 2002, as metal manufacturers shed another 1.7% of their workforce.

Canada saw an upturn in employment in machinery manufacturing, pushing employment in the broader machinery and equipment sector up 3.4%. In the United

**Chart L: Employment in transportation equipment manufacturing rebounded in Canada, but continued to decline in the U.S.**



Sources: *Survey of Employment, Payroll and Hours (Canada)*; *Current Employment Statistics (United States)*

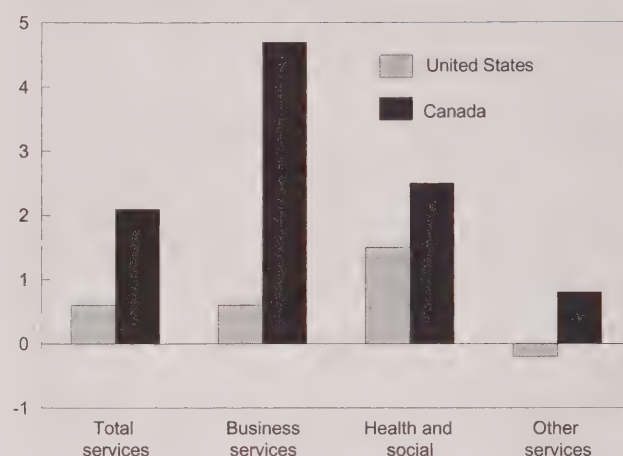
States, employment in this industry continued to fall, dropping another 3.6% in the first seven months of 2002. Machinery equipment producers largely service other manufacturers. With the recent gains in manufacturing shipments in Canada being considerably larger (8.2% year-to-date by July) than the gains in the United States (3.5%), one would expect greater hiring at Canadian machinery equipment producers.

Government spending increased in both the United States and Canada following the end of the third quarter 2001. While the spending increase was greater in the U.S. than in Canada, much of it in the U.S. was military-related; in Canada, defence expenditure increases were more moderate. In both countries, the number of armed forces personnel has been on an upward trend ever since the September 11 attacks.

Added spending in health care and social assistance in 2002 in Canada helped contribute to the greater gains in services employment in Canada (Chart M). In the first seven months of the year, health care and social assistance employment increased 2.5%, compared with a 1.5% gain in that sector in the United States. Services to business also increased at a faster pace in Canada than in the U.S. In Canada, the number of employees

**Chart M: Services employment increased much more in Canada.**

Change, December 2001 to July 2002 (%)



Sources: Survey of Employment, Payrolls and Hours (Canada); Current Employment Statistics (United States)

**Table 3: Employment change by industry\***

	December 2001 to July 2002			
	Canada	U.S.	Canada	U.S.
	'000		%	
<b>Industrial aggregate</b>	<b>290.0</b>	<b>-99.0</b>	<b>2.3</b>	<b>-0.1</b>
Mining, oil and gas	-1.3	-14.0	-0.9	-2.5
Construction	7.0	-115.0	1.2	-1.7
Manufacturing	54.5	-320.0	2.7	-1.9
Metal products	11.0	-35.0	3.9	-1.7
Transportation equipment	16.0	-48.0	7.0	-2.8
Machinery and equipment	9.4	-153.0	3.4	-3.6
Other manufacturing	18.0	-84.0	1.6	-0.8
Utilities	-0.4	0.0	-0.3	0.0
Trade	84.3	-2.0	3.8	0.0
Transportation and warehousing	-0.8	-4.0	-0.1	-0.1
Finance, insurance and real estate	23.8	-11.0	3.1	-0.1
Services	116.1	261.0	2.1	0.6
Public administration	6.7	106.0	0.9	0.5

Sources: Survey of Employment, Payroll and Hours (Canada); Current Employment Statistics (United States)

\* See Industry concordance.

in business services (such as professional, engineering and legal services) increased 4.7%, considerably more than the 0.6% growth south of the border.

## Who was getting the jobs in 2002?

By mid-2002, employment rates in Canada had returned to the highs of December 2000. All major age and sex groups experienced similar employment rate increases with the exception of older men, whose employment rate increased by 1.4 points, much greater than the overall average of 0.8 points.

Employment rates in the United States continued to decline for youth and core-age workers (down almost 1.0 percentage points) through mid 2002, while older workers continued to find employment (1.2 percentage point increase). By July 2002, employment rates in the United States were still approximately 2 percentage points below December 2000 levels.

Unemployment rates in Canada declined for each sex and major age group by mid-2002, although men, youth and older workers had slightly higher than average decreases. In the United States, unemployment rates for men, youth and adult workers continued to increase into 2002.



## Increase in part-time work a North American phenomenon

Much discussion has focused on the 'quality' of the employment growth in Canada in the last year—a growing share of employment growth has been part-time rather than full-time (Chart N). Part-time employment grew faster than full-time employment in Canada in the last year, increasing 3.7% from July 2001 to July 2002, compared with a 1.8% increase in full-time employment. The United States saw an even greater increase in part-time employment during the same time, 4.9%.

Even though part-time employment increased, the proportion of employment that is part-time (part-time rate) increased minimally in Canada, from 22.6% in July 2001 to 23.0% in July 2002. In the United States, the part-time rate increased from 16.0% to 16.9% over the same period.

### The regional perspective

Only two provinces experienced a net decline in employment in 2001 (Figure): British Columbia (-61,000) and Saskatchewan (-15,000). British Columbia's losses were caused mainly by a lumber produc-

tion slowdown or halting of operations, while Saskatchewan experienced falling farm employment, a trend that started in 2000.

Most provinces, however, experienced an unemployment rate increase, except Manitoba and Newfoundland and Labrador where unemployment rates decreased minimally (0.4 percentage points). Quebec and British Columbia had the highest increases—1.7 and 2.8 percentage points respectively between December 2000 and December 2001.

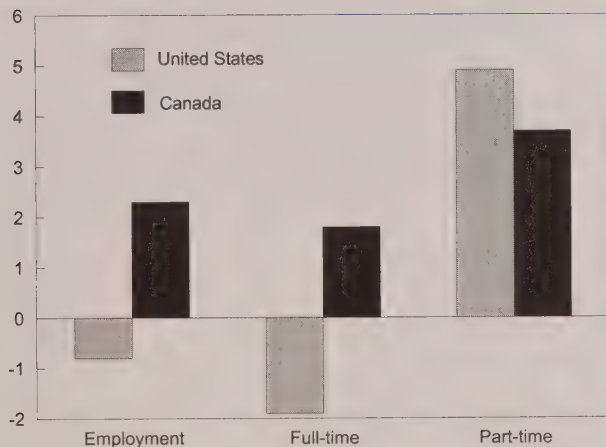
By July 2002, employment had increased for 9 of the 10 provinces, with Ontario, Quebec, British Columbia, and Alberta experiencing the bulk of growth. Eight of the 10 provinces experienced unemployment rate declines by mid-2002. Unemployment rates for Ontario and Manitoba increased minimally from December 2001, by 0.3 and 0.4 percentage points respectively.

In the U.S., employment declines and unemployment increases in 2001 were more widespread. Employment declined in 31 of the 50 states in 2001. New York, Michigan, Illinois, Washington and Georgia were among the hardest hit, accounting for two-thirds of the employment decrease. Unemployment rate increases were even more widespread, as rates rose in 46 of the 50 states, with increases of a full percentage point in 28 states.

The labour market outlook fared better for the first seven months of 2002. Between December 2001 and July 2002, employment declined in only 11 states, and 16 enjoyed increases of over 2%. By mid-2002, New York (1.7%), Washington (2.3%) and Georgia (2.4%), three of the hardest hit in 2001, enjoyed employment increases. Unemployment rates increased in less than half of the states (24), and only two experienced an increase of a full percentage point or more.

**Chart N: Part-time employment grew faster in the U.S. than in Canada.**

Change, July 2001 to July 2002 (%)



Sources: Labour Force Survey (Canada); Current Population Survey (United States)

Note: Data not adjusted for seasonality and based on the American definition: part-time, less than 35 hours per week; full-time, 35 hours or more per week.

### Conclusion

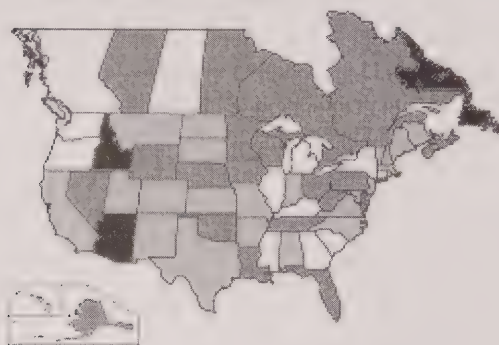
The first seven months of 2002 were remarkably positive for the labour market in Canada, but unfortunately, the same cannot be said for the United States. Employment in Canada increased by 2.3% between December 2001 and July 2002, whereas in the U.S., the trend was flat (-0.1%).

Not only were Canadian *trends* more positive, the *state* of the labour market in Canada was in better shape. As a result of the relative strength of the Canadian economy, the proportion of the Canadian population working shot above 62%, while it tumbled in the U.S.,

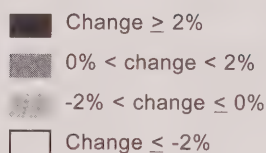
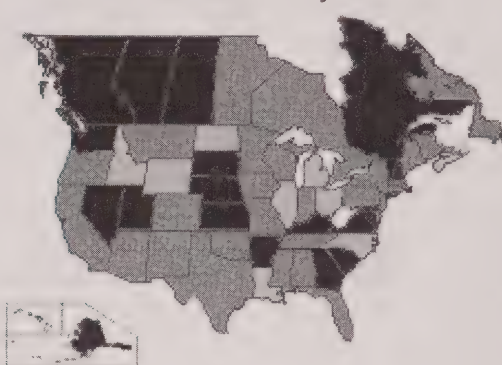
Figure: Changes in employment and the unemployment rate, by province and state.

### Employment

December 2000 to December 2001

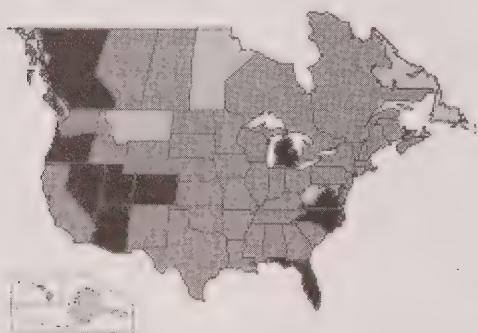


December 2001 to July 2002

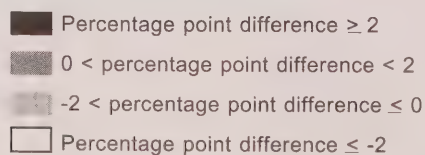
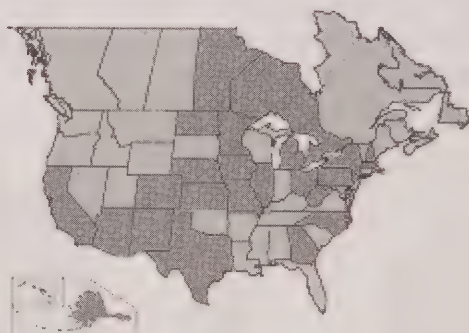


### Unemployment rate

December 2000 to December 2001



December 2001 to July 2002



Sources: Labour Force Survey (Canada); Local Area Unemployment Statistics program (United States)



essentially eliminating the persistent employment rate gap. (However, the full-time employment rate in the United States remained higher than in Canada.) A gap remained in the unemployment rate, but Canada's was higher only because Canadians were more likely to be participating in the labour market.

2 In this paragraph, the employment figures used are from the Survey of Employment, Payroll and Hours (Canada) and the Current Establishment Survey (United States).

3 See David Langdon, Terrance McMenamin and Thomas Krolik, "U.S. labor market in 2001: Economy enters a recession," *Monthly Labor Review* 125 no. 2 (Washington: Bureau of Labor Statistics, February 2002).

### Perspectives

#### ■ Notes

1 In the 1980s, the economic downturn ran from the fourth quarter of 1981 to the third quarter of 1982. In the 1990s, the contraction ran from the third quarter of 1990 to the first quarter of 1991. The 2001 decline occurred over the first three quarters of 2001.

#### Industry concordance

Table for comparisons of estimates from the Survey of employment, payrolls and hours (SEPH), using the North American Industry Classification System (NAICS), and the Current Employment Statistics (CES), using the Standard Industrial Classification system (SIC).

Industry	SEPH – NAICS (including codes)	CES – SIC (including codes)
Mining, oil and gas	Mining, oil and gas extraction (21)	Mining (10-14)
Construction	Construction (23)	Construction (15-17)
Manufacturing	Manufacturing (31-33)	Manufacturing (20-39)
Textiles and apparel	Textile mills and products, clothing, and leather products (313-316)	Textile mill products, apparel and leather products (22, 23, 31)
Rubber and plastics	Plastics and rubber (326)	Rubber and plastic products (30)
Metal products	Primary and fabricated metals (331-332)	Primary and fabricated metals (33-34)
Transportation equipment	Transportation equipment (336)	Transportation equipment (37)
Machinery and equipment	Machinery, computer, electronic, electric equipment (333-335)	Industrial, commercial, computer, electronic, other electric equipment, instruments (35-36, 38)
Utilities	Utilities (22)	Utilities (49)
Trade	Wholesale and retail trade (41, 44-45)	Wholesale and retail trade (50-59)
Transportation and warehousing	Transportation and warehousing (48-49)	Transportation (40-47)
Finance, insurance and real estate	Finance, insurance and real estate (52-53)	Finance, insurance and real estate (60-67)
Services	Information and cultural industries (51) Professional, scientific and technical services (54) Management of companies and enterprises (55) Administrative and support, waste management and remediation services (56) Educational services (61) Health care and social assistance (62) Arts, entertainment and recreation (71) Accommodation and food services (72) Other services (81)	Services, communications (70-88, 48)
Public administration	Public administration (91)	Public administration (91-99)

## Appendix

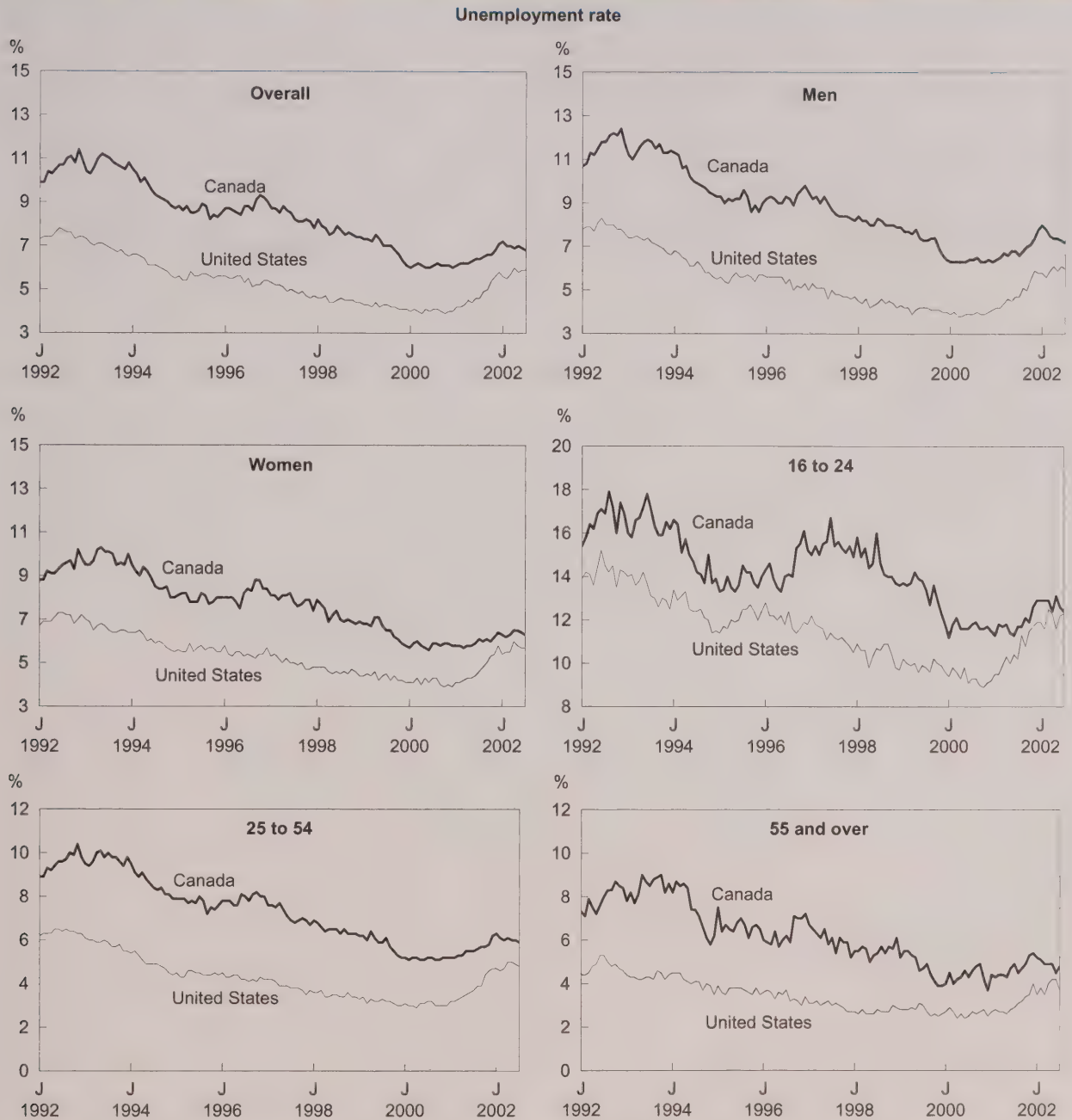
Chart A1: Employment rates by sex and age



Sources: Labour Force Survey (Canada), Current Population Survey (United States)



**Chart A2: Unemployment rates by sex and age**



Sources: Labour Force Survey (Canada), Current Population Survey (United States)

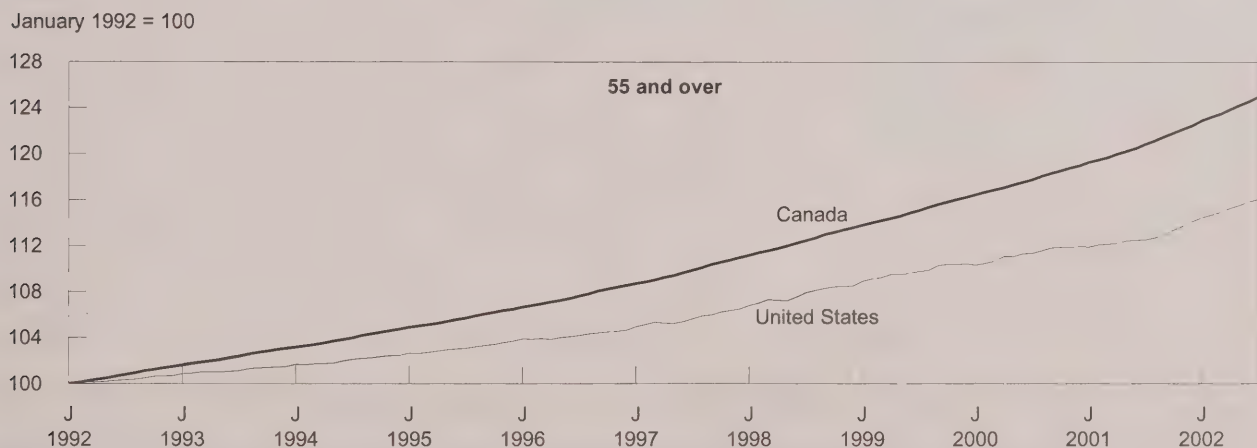
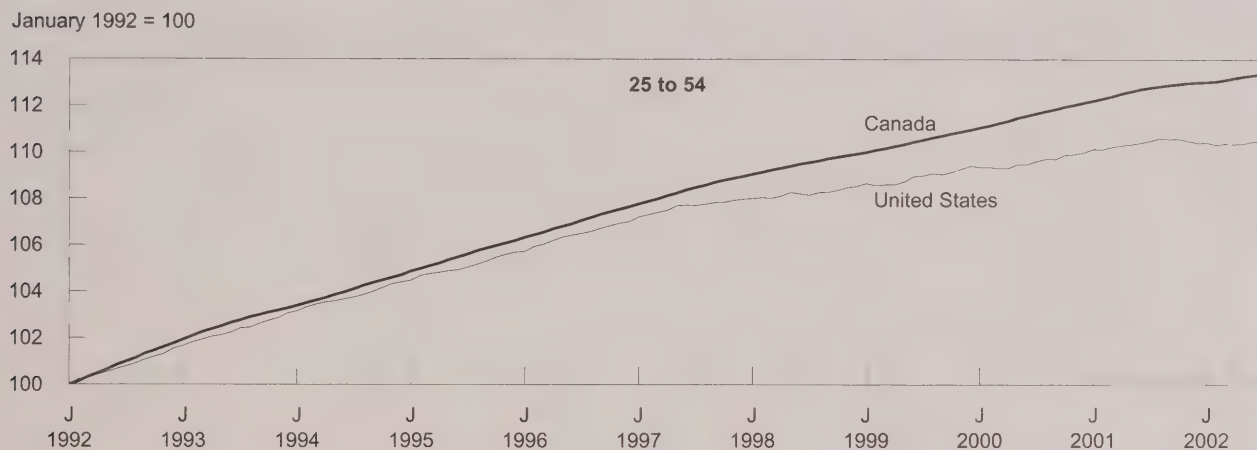
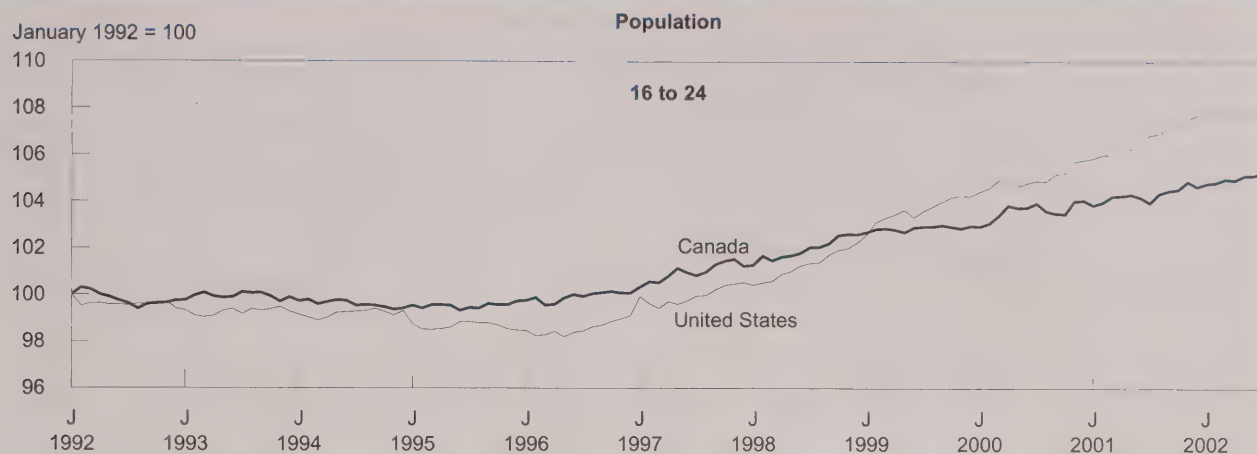
Chart A3: Participation rates by sex and age



Sources: Labour Force Survey (Canada), Current Population Survey (United States)

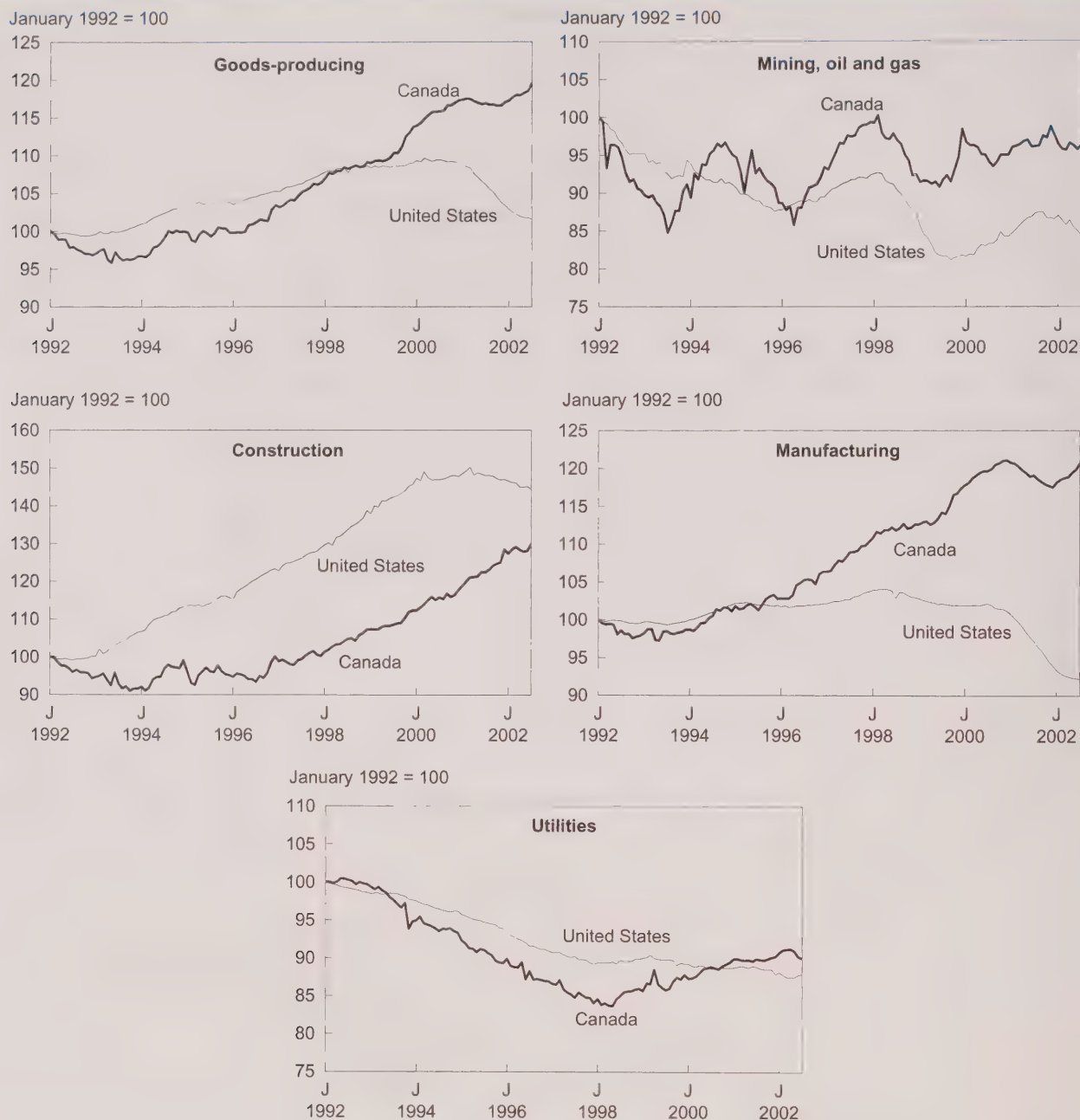


**Chart A4: Population indexes by age**



Sources: Labour Force Survey (Canada), Current Population Survey (United States)

**Chart A5: Index of employment by industry\***

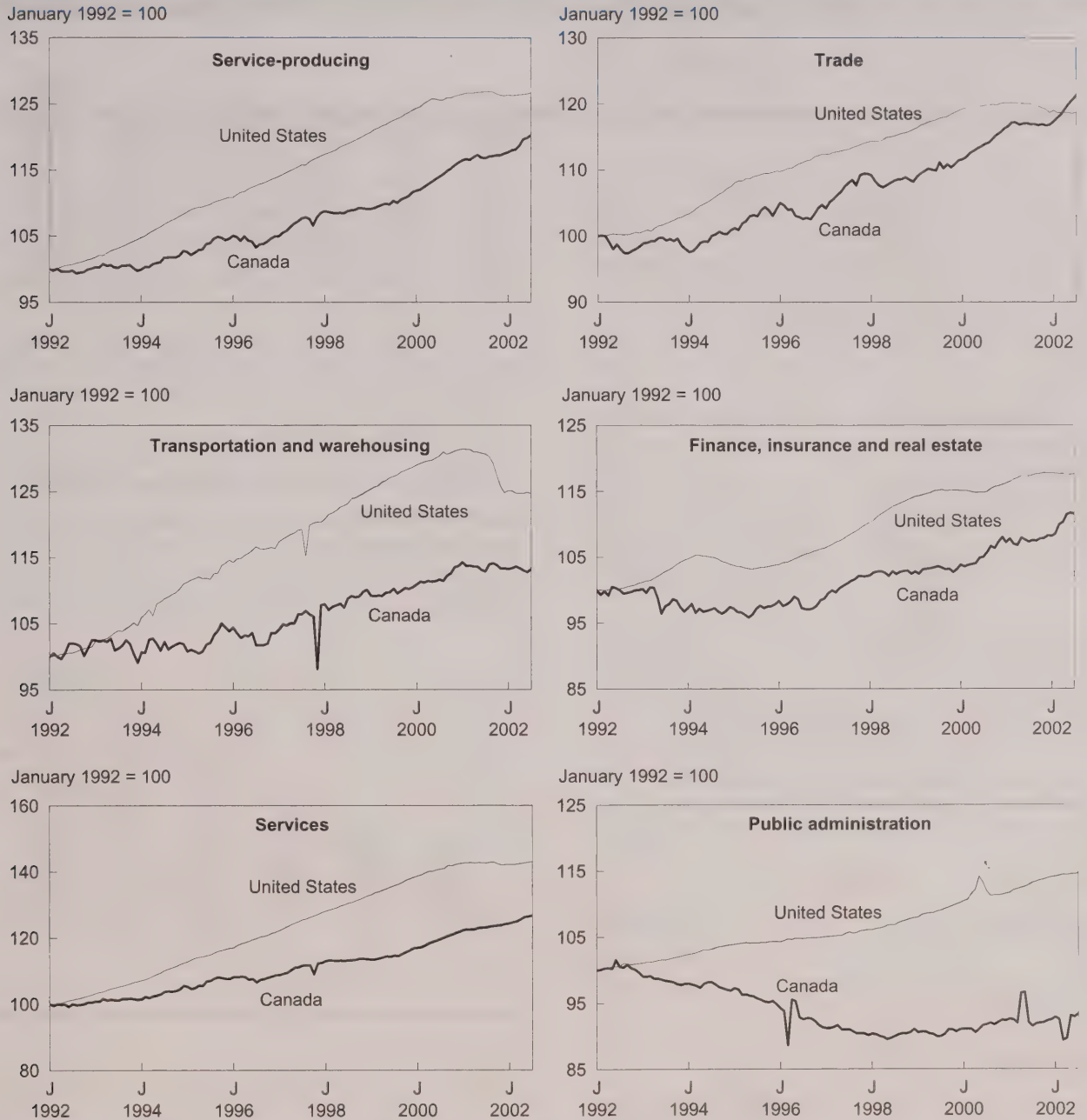


Sources: Survey of Employment, Payrolls and Hours (Canada), Current Employment Statistics (United States)

\* See Industry concordance.



Chart A5: Index of employment by industry\* (concluded)



Sources: Survey of Employment, Payrolls and Hours (Canada), Current Employment Statistics (United States)

\* See Industry concordance.

# Quality of jobs added in 2002

*Martin Tabi and Stéphanie Langlois*

**T**HE LABOUR MARKET IN CANADA improved considerably in 2002, with employment jumping 560,000 or 3.7% from December 2001 to December 2002. After the slowdown in both economic growth and employment in 2001, almost no one anticipated such a strong performance (Bowlby 2003).

The trend in employment contrasted between the United States and Canada. Employment in the U.S. remained almost unchanged (-0.1%), with the economy growing at a weaker pace than in Canada. The sudden reversal of trend from 2001, robust growth of part-time employment, and the stagnation of the American labour market in 2002 are all reasons to question the quality of the jobs added in 2002.

Job quality can be evaluated in several ways. On a personal level, criteria could include wages, number of hours worked, shift work, place of work, commuting distance, work relationships, and so forth. Each individual may assign a different importance to each factor.

For the economy as a whole, what defines a good job refers more to concepts of productivity. Jobs with higher wages, more hours of paid work, and stability will make a greater contribution to economic growth. This approach has been adopted for this study.

While definite conclusions on the quality of job growth in 2002 are not possible, some indications of the nature of the employment gain can be gleaned from the Labour Force Survey.

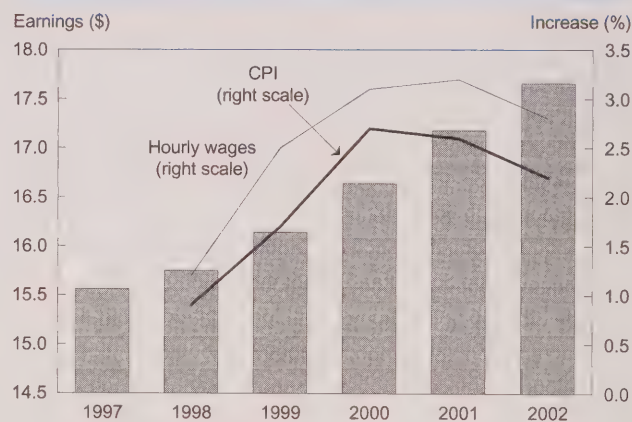
## Hourly wages

From the perspective of economic growth and productivity, a direct measure of the quality of a job is its wage. Average hourly wages continued to rise in 2002,

reaching \$17.66. The 2.8% increase between 2001 and 2002 was slightly less than the increases recorded in the previous two years (3.1% and 3.2% respectively).

By way of comparison, the annual average all-items consumer price index (CPI) rose 2.2% in 2002, somewhat less than wages (Chart A). On average, consumers paid 2.6% more for goods and services in 2001 than they did in 2000. In 2000, the average increase was 2.7%.

**Chart A: Hourly earnings increased more than consumer prices.**



Sources: Labour Force Survey; Prices Division

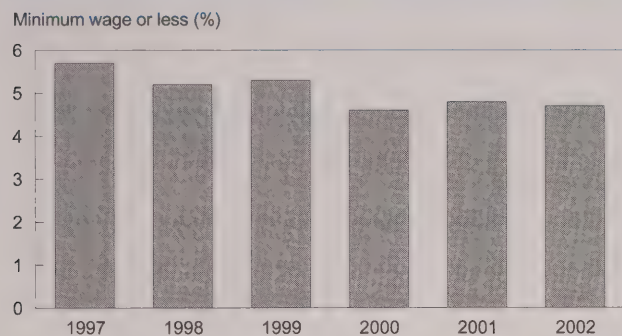
Through a variety of measures, the distribution of wages remained roughly unchanged in 2002. One broad indicator of wage distribution is the share of employees earning less than the average hourly wage, about 58% each year since 1997.

The rise in real wages and the creation of relatively few minimum wage jobs in 2002 are positive indications of the quality of job growth. In 2002, the total

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**Chart B: For the third straight year, less than 5% of employees earned minimum wage or less.**



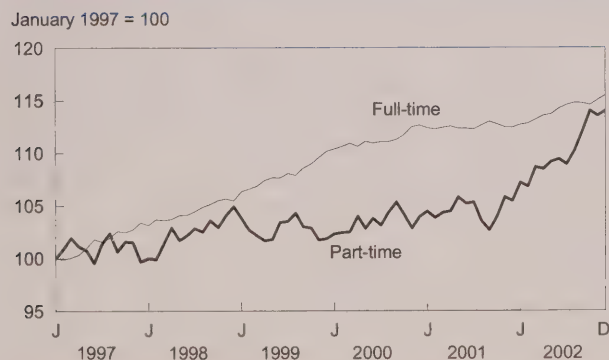
Source: Labour Force Survey

number of employees increased more rapidly (3.6%) than the number working at minimum wage (0.5%). Although seven provinces increased their minimum wage in 2002, the proportion of employees paid at this rate was down slightly from the previous year (-0.1%). At 4.7%, the proportion of employees working at minimum wage remained under the 5% mark for a third consecutive year (Chart B).

### Strong growth of part-time work

Part-time employment grew by 7.7% (213,000) between December 2001 and December 2002, the largest annual increase since 1981 (Chart C). Because

**Chart C: After several years of little growth, part-time employment jumped in 2002.**



Source: Labour Force Survey, seasonally adjusted

the increase in part-time employment was almost three times the increase in full-time employment (2.8%), the proportion of part-time employment rose 0.7 percentage points, reaching 19.0%. After reaching 19.8% in July 1993, the highest proportion ever recorded, the share of part-time jobs saw a downward trend until late 2001. In terms of raw numbers, full-time employment increased by a healthy 347,000.

Youths (age 15 to 24) obtained 27% of the part-time gains, almost twice their share of the labour force (16%). The increase of 57,000 part-time jobs for youths is important; part-time employment is often a way for young people to break into the labour market, helping them gain essential work experience.

The increase in the proportion of part-time employees could indicate a less healthy labour market. Part-time work is often seen as a form of underemployment, especially if individuals are working part time as a result of less favourable business conditions.<sup>1</sup>

Despite the recent upward trend in part-time employment, the share of people working part time because of business conditions remained practically unchanged in 2002—about 27%, a drop of 0.6 percentage points from the 1997 to 2001 average.

### Hourly wage lower for part-time

Wages for both part- and full-time workers increased in 2002 (Table 1). However, hourly pay grew twice as rapidly for full-timers. At 3.1%, the wage gain among full-time employees was greater than the increase in the consumer price index; but for part-timers, the gain was well below (1.4%).

**Table 1: Average hourly earnings**

	Full-time	Change	Part-time	Change
	\$	%	\$	%
1997	16.52	...	11.37	...
1998	16.72	1.2	11.35	-0.2
1999	17.16	2.6	11.44	0.8
2000	17.69	3.1	11.72	2.4
2001	18.25	3.2	12.23	4.4
2002	18.82	3.1	12.40	1.4

Source: Labour Force Survey

## Number of temporary jobs up substantially

Job permanency is also often viewed as a quality indicator. Permanent jobs, in addition to being more stable, tend on average to be better-paying than temporary jobs.<sup>2</sup>

As a result of slightly stronger growth in temporary jobs (4.4% vs. 3.1%), the proportion of temporary jobs continued to rise in 2002, from 12.8% to 13.0% (Table 2). In fact, the proportion has increased every

**Table 2: Employees in permanent and temporary jobs**

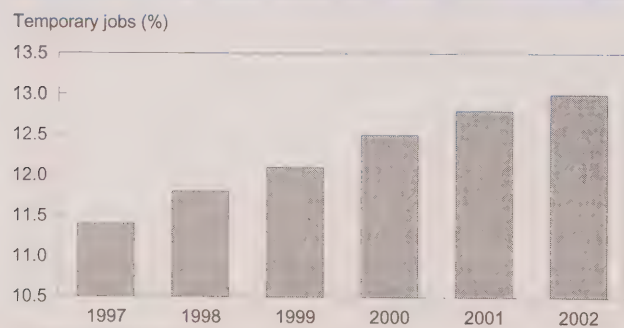
	Permanent	Change	Temporary	Change
Fourth quarter	'000	%	'000	%
1997	10,236.2	...	1,289.6	...
1998	10,467.5	2.3	1,348.3	4.5
1999	10,811.8	3.3	1,401.3	3.9
2000	11,073.6	2.4	1,582.8	13.0
2001	11,257.9	1.7	1,528.2	-3.4
2002	11,603.3	3.1	1,594.9	4.4

Source: Labour Force Survey, not seasonally adjusted

year since 1997. In the last six years, temporary employment has jumped 30.5% (396,000), while permanent jobs have increased 12.3% (1.2 million).

Although the percentage increase in temporary jobs was greater than in permanent ones between the fourth quarters of 2001 and 2002, the numerical increase was far less—67,000 compared with 345,000 (Chart D).

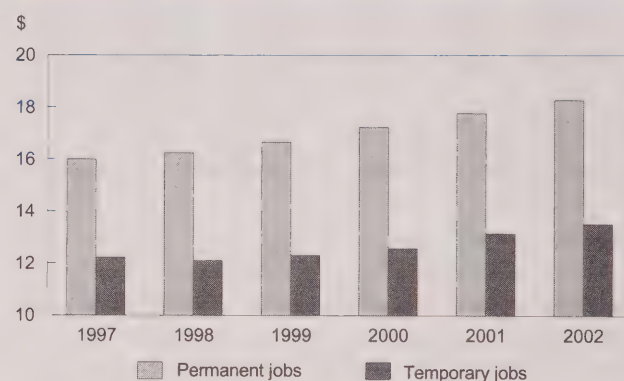
**Chart D: The proportion of temporary jobs continued to rise in 2002.**



Source: Labour Force Survey

Since 1997, temporary employment has increased at a faster pace than permanent. However, at the same time, wages for permanent jobs have risen slightly more rapidly (Chart E). In 2002, the average hourly wage increased 2.8% for people in permanent and temporary jobs.

**Chart E: Hourly earnings rose more for permanent jobs.**



Source: Labour Force Survey

## Self-employment once again on the rise

Most of the indicators presented thus far have focused exclusively on employees, who are more numerous than self-employed workers. (Self-employment accounted for 15.2% of total employment in December 2002.) However, self-employment also increased in 2002.

After stalling for just over a year and a half, self-employment grew significantly in 2002 (4.2%, or 95,000, between the fourth quarters of 2001 and 2002) (Table 3). Does such growth signify bad, unstable or less well-paid employment? Since self-employed workers are fairly heterogeneous, the question is difficult to answer. Who joined the ranks of this group in the past year? Did these people become self-employed by default, awaiting a better opportunity?

The professional, scientific and technical services sector has the largest proportion of self-employed workers, and this sector registered the largest increase in self-employment (25,000) between the fourth quarters of 2001 and 2002. Possibly some who became self-employed in 2002 had been salaried employees who



**Table 3: Self-employment by industry**

	Fourth quarter		Change	Share in 2002*
	2001	2002		
	'000		%	%
<b>Total</b>	<b>2,287.5</b>	<b>2,382.7</b>	<b>4.2</b>	<b>100.0</b>
Professional, scientific and technical services	319.3	344.7	8.0	14.0
Trade	313.6	287.0	-8.5	12.8
Construction	267.9	273.9	2.2	11.8
Other services	217.8	227.3	4.4	9.9
Agriculture	200.5	222.4	10.9	9.0
Health care and social assistance	188.6	211.1	11.9	8.3
Management, and administrative and support services	136.2	151.9	11.5	6.5
Finance, insurance, real estate and leasing	124.8	132.1	5.8	5.6
Transportation and warehousing	126.3	130.4	3.2	5.5
Information, culture and recreation	99.5	105.7	6.2	4.4
Accommodation and food services	98.5	103.7	5.3	4.1
Manufacturing	97.2	95.5	-1.7	4.0
Educational services	52.1	48.8	-6.3	2.0
Forestry, fishing, mining, and oil and gas extraction	45.3	47.4	4.6	1.9
Utilities	...	...	...	...
Public administration	...	...	...	...

Source: Labour Force Survey, not seasonally adjusted

\* Annual average.

**Who gained and lost the most?**

Another way to profile employment growth in 2002 is to examine the occupations and industries in which the largest number of job gains and losses<sup>3</sup> occurred between the fourth quarters of 2001 and 2002. Both part- and full-time jobs were considered. The average weekly wage of each group in 2002 was compared with the average compensation of employees in general (\$650 per week) to help determine job quality.

**The ten largest gainers**

Most of the ten largest gainers were full-time jobs with higher than average weekly wages (Table 4). But, retail salespersons and sales clerks working part time in the trade sector showed the largest gain in employment, an increase of 29,000 (12%) between the fourth

decided to work for themselves after the collapse of the high-tech sector (Bowlby and Langlois 2002). Within professional, scientific and technical services, the largest increase was in computer systems design and related services.

Self-employment also increased in health care and social assistance, with a gain of 23,000 concentrated in two sub-sectors: ambulatory health-care services and social assistance. In ambulatory services, the advance was mainly in professional occupations such as physicians, dentists, and pharmacists. The increase in social services was reflected in occupations such as teacher assistants, early childhood educators, and babysitters.

**Table 4: Top ten job gainers in 2002**

	Fourth-quarter change		Weekly earnings
	number	%	\$
Part-time retail salespersons and sales clerks in trade	28,600	11.7	149
Full-time registered nurses in health care and social assistance	21,300	13.7	936
Full-time elementary school and kindergarten teachers in educational services	20,200	15.4	946
Full-time retail salespersons and sales clerks in trade	18,300	6.9	469
Part-time nurses aides and orderlies in health care and social assistance	12,600	24.7	271
Full-time motor vehicle mechanics, technicians, and mechanical repairers in trade	11,500	27.5	706
Full-time restaurant and food service managers in accommodation and food services	11,200	31.9	652
Full-time truck drivers in manufacturing	11,200	61.2	738
Full-time construction trades helpers and labourers in construction	11,000	16.8	638
Full-time computer systems analysts in professional, scientific and technical services	10,300	13.7	1,133

Source: Labour Force Survey, not seasonally adjusted

quarters of 2001 and 2002. However, average compensation per week for this type of job was \$149 in 2002—\$501 less than for employees in general.

Registered nurses working full time in health care and social assistance ranked second with a rise of 21,000 (14%). In 2002, they earned \$936 per week, or \$286 more than employees in general. The health-care and social-assistance industry was one of the fastest growing industries in 2002.

Sizeable increases were also evident for other full-time jobs that paid above average, such as elementary school and kindergarten teachers working in educational services, and computer systems analysts working in professional, scientific and technical services.

### The ten largest losers

The ten largest losers were almost all full-time, but most had below average weekly wages (Table 5).

Shippers and receivers working full time in trade, and cooks working full time in accommodation and food services experienced the largest job losses, 19,000 (-32%) and 15,000 (-15%) respectively. Shippers and receivers averaged \$504 per week, while cooks at \$375 averaged even less.

Some well-paid, full-time jobs were lost between the fourth quarters of 2001 and 2002, notably those held by computer systems analysts in the information, culture and recreation industry. In 2002, these employees received more than \$1,000 per week, much higher than the overall average.

Overall, the number of computer systems analysts grew by 5,000 between the fourth quarters of 2001 and 2002. The number of self-employed workers in this occupation increased substantially, supplementing the increase in employees in professional, scientific and technical services.

**Table 5: Top ten job losers in 2002**

	Fourth-quarter change		Weekly earnings
	number	%	\$
Full-time shippers and receivers in trade	-18,700	-31.6	504
Full-time cooks in accommodation and food services	-15,100	-15.2	375
Full-time early childhood educators and assistants in health care and social assistance	-13,300	-18.4	460
Full-time secretaries (except legal and medical) in public administration	-12,700	-46.5	610
Full-time motor vehicle assemblers, inspectors and testers in manufacturing	-11,800	-25.5	945
Full-time food and beverage servers in accommodation and food services	-11,100	-13.9	372
Full-time sales representatives, wholesale trade (non-technical) in trade	-10,900	-14.8	751
Part-time elementary/secondary teachers n.e.c.*	-10,500	-26.2	456
Full-time computer systems analysts in information, culture and recreation	-10,400	-50.9	1,032
Full-time cashiers in trade	-9,400	-11.0	335

Source: Labour Force Survey, not seasonally adjusted

\* Not elsewhere classified.

## Summary

While the greater proportionate increase in part-time and temporary jobs casts a shadow on the nature of the strong job growth in 2002, the gains were not made at the expense of full-time or permanent jobs. Increases for the latter, while more modest in proportion, were larger in absolute terms, indicating that many good jobs were added in 2002. Although it is hard to determine how many added jobs were good and how many were not, it would be difficult to argue that 2002 was a bad year, considering the overall growth in wages and the sizeable increase in employment spread among different types of jobs.

## Perspectives

### Notes

1 People working part time because of 'business conditions' would prefer to work 30 hours or more per week; however, because of these conditions, they were not able to find full-time work or had their hours reduced. Conditions include not enough work, a drop in orders, retooling, and cutback in hours to save costs.

### Reasons for working part time

	Average 1997 to 2002
	%
Own illness or disability	2.3
Caring for own children	10.8
Other personal or family responsibilities	4.5
Going to school	28.7
Personal preference	24.6
Other voluntary reasons	1.5
Business conditions, did not look for full-time work in the last month	9.1
Did not look for, could not find full-time work in the last month	9.6
Business conditions, looked for full-time work in the last month	2.8
Looked for but could not find full-time work	5.9

Source: Labour Force Survey



2 Job permanency is based on the intentions of the employer and characteristics of the job, rather than the intentions of the employee. If a job that was formerly considered permanent is ending in the near future because of downsizing or closure, it is still regarded as permanent.

A **permanent** job is one that is expected to last as long as the employee wants it, given that business conditions permit. There is no predetermined termination date.

A **temporary** job has a predetermined end date, or will end as soon as a specified project is completed. Temporary jobs are sub-classified into four groups: seasonal; temporary, term or contract, including work done through a temporary help agency; casual job; and other temporary work.

3 Self-employed workers are excluded.

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## Perspectives on Labour and Income

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# The retirement wave

Andrew MacKenzie and Heather Dryburgh

AS IN MANY OTHER industrialized nations, Canada's population is relentlessly aging, raising a range of individual, organizational and societal challenges. One of the key challenges for employers will be the availability of qualified workers as the baby boom generation, about half of Canada's labour force, enters retirement.

The baby boom began just after World War II and lasted until the mid 1960s, when the broad availability of the pill and increasing participation in postsecondary education signalled the beginning of the baby bust. Today, the oldest of the boomers are 55 and eligible for retirement benefits in many private pension plans. They are the beginning of a rising wave of retirements that should reach its peak about the time the largest birth cohorts (1960 and 1961) hit the median retirement age (about 61) in the early 2020s. This retirement wave will wash a substantial amount of talent and experience out of the workforce. Although awareness of the impending loss is widespread (Bolch 2001; Bovbjerg 2001; Kotlikoff, Smetters and Walliser 2001; McEvoy and Blahna 2001; Regets 2001), until recently, little empirical analysis has been done to examine the industries and occupations that will be most affected.

The retirement of the baby boom generation represents a challenge for workplaces to replace the outgoing talent and experience (Foot 1998). Just as the baby boomers entered the workforce in large numbers, companies must also be prepared for their mass retirement. The Workplace and Employee Survey (WES) combines information on both employers and employees. This unique database provides some signals as to which industries and occupations are likely to feel the effects sooner than others (see *Data source and definitions*).

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## Data source and definitions

The data are from the first year (1999) of the **Workplace and Employee Survey (WES)**. Covering both workplaces and employees, the survey provides a link between workplace changes and the effects on workers. Workplaces were sampled from Statistics Canada's Business Register, and employees were then sampled from the selected companies.

Three separate baby-boomer age groups were studied: 34 to 39; 40 to 45; and 46 to 52.

Fourteen industry and six occupation groups were used.

WES does not survey workplaces in crop and animal production; fishing, hunting and trapping; private households; and public administration. The last omission is noteworthy. Preliminary demographic data from other sources (including data on the staff of Statistics Canada) suggest that public administration has an older demographic structure and may encounter replacement stress earlier than some other industries as the baby boom generation retires.

This paper looks at age distributions and highlights industries with older workforces and relatively young retirement ages. Then, age differences among occupational groups are used as pointers to succession issues within industries. Finally, current measures of turnover and unfilled vacancies are used to determine whether aging is already affecting some sectors of the economy.

## Employee age and retirement patterns

Retirement is not simply a matter of turning 65, getting a gold watch, and saying goodbye to the workplace. Retirement is a complex process related to financial considerations, family situation, social norms, and contractual arrangements (see, for example, Pyper and Giles 2002). However, retirement patterns do vary systematically across industries in a predictable manner; those industries and occupations characterized by more generous private pension plans tend to have a lower retirement age. Predictable replacement pressures will arise where employers have



both a low average age of retirement and an older workforce. These workplaces are, in effect, being squeezed from two directions. Industries and occupations where the squeeze is most imminent can already be identified.

### Education and health care: high median ages, low retirement ages

In the education and health-care sector, 64% of men and 63% of women were 40 years of age or older in 1999 (Table 1). The average age of employees in this sector was the highest of all industries at 42.7 (Chart A). The education workforce was roughly two years older than health care, 44.3 versus 42.0. According to the Labour Force Survey, the median retirement age in 1999 was 56.4 for employees in educational services and 61.8 in health care. Thus, in education, only 12 years separated the median age of employees from the median retirement age; in health care, 20.

Several factors have contributed to the high average age in education and health care. Both industries felt the sting of budgetary cutbacks in the 1990s, as all levels of government wrestled with deficit problems. Demographics also contributed to some slackening of demand for elementary and high school teachers. As well, both industries have relatively high educational requirements, so their entrants are older than entrants in most other industries.

However, education and health care are not alone in facing an aging workforce. Forestry, mining, and oil and gas; and communication and other utilities also have older workforces. Some 58% of forestry, mining, and oil and gas workers were 40 or older, as were

**Table 1: Industry employment by age and sex**

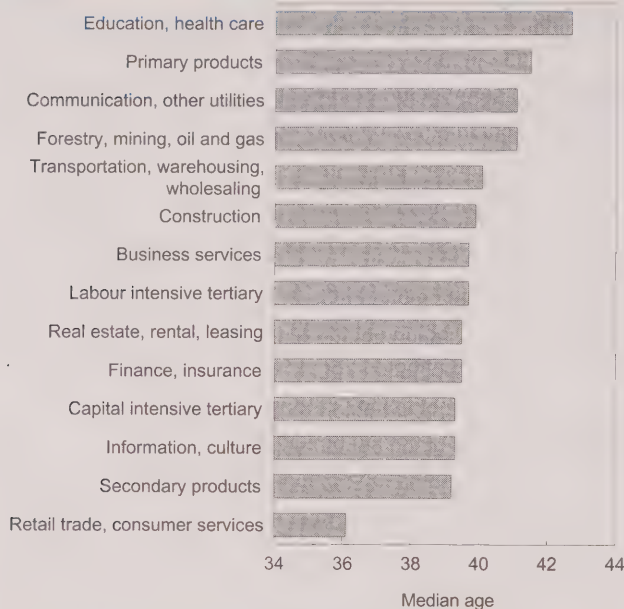
	Age							
	<25	25-29	30-33	34-39	40-45	46-52	53-59	60+
	%							
<b>Forestry, mining, oil and gas</b>								
Men	4	10	5	24	20	22	13	2
Women	6	8	8	20	28	25	2	3
<b>Manufacturing</b>								
Primary products								
Men	5	7	6	22	24	21	12	3
Women	6	14	6	20	21	20	11	1
Secondary products								
Men	8	12	8	19	27	12	11	3
Women	7	12	9	26	18	18	8	1
Capital-intensive tertiary								
Men	4	11	16	25	16	14	11	2
Women	4	13	11	26	18	16	9	3
Labour-intensive tertiary								
Men	12	15	6	20	19	17	7	4
Women	6	10	7	25	17	21	12	2
<b>Construction</b>								
Men	8	10	9	24	20	16	11	3
Women	5	7	6	28	26	15	12	2 <sup>E</sup>
<b>Transportation, warehousing, wholesaling</b>								
Men	7	8	9	25	22	13	12	4
Women	8	15	8	23	18	17	7	5
<b>Communication, other utilities</b>								
Men	4	8	8	22	21	25	9	3
Women	5	7	9	25	21	24	8 <sup>E</sup>	1 <sup>E</sup>
<b>Retail trade, consumer services</b>								
Men	21	11	8	17	14	15	9	5
Women	26	10	7	19	14	14	7	3
<b>Finance, insurance</b>								
Men	4	9	11	26	21	18	8	3
Women	5	11	9	28	23	16	7	2
<b>Real estate, rental, leasing</b>								
Men	7	9	6	32	12	18	9	8
Women	12	18	9	17	15	15	10	5
<b>Business services</b>								
Men	6	11	10	25	18	21	8	3
Women	6	13	9	26	15	19	8	4
<b>Education, health care</b>								
Men	4	9	4	19	21	23	15	5
Women	3	8	4	23	21	26	14	2
<b>Information, culture</b>								
Men	5	13	8	24	18	26	4	2
Women	10	13	6	22	19	20	9	1

Source: Workplace and Employee Survey, 1999

58% of men and 54% of women in communication and other utilities. The average age for both these industries was 41.1, comparable to

health care. Within these sectors, utilities stands out as having a low median retirement age—57.8 in 1999.

**Chart A: Half the employees in education and health care were 43 or older.**



Source: Workplace and Employee Survey, 1999

Retail trade and consumer services occupied the opposite end of the age spectrum; 32% of men and 36% of women were less than 30 years old, with an average age of 36.1. The large proportion of youth in retail trade was primarily the result of young employees working part time.

Based on age alone, education and health care; forestry, mining, and oil and gas; and communication and other utilities appeared the most vulnerable to incipient retirement. However, when both age and industry retirement patterns were considered, education and utilities stood apart.

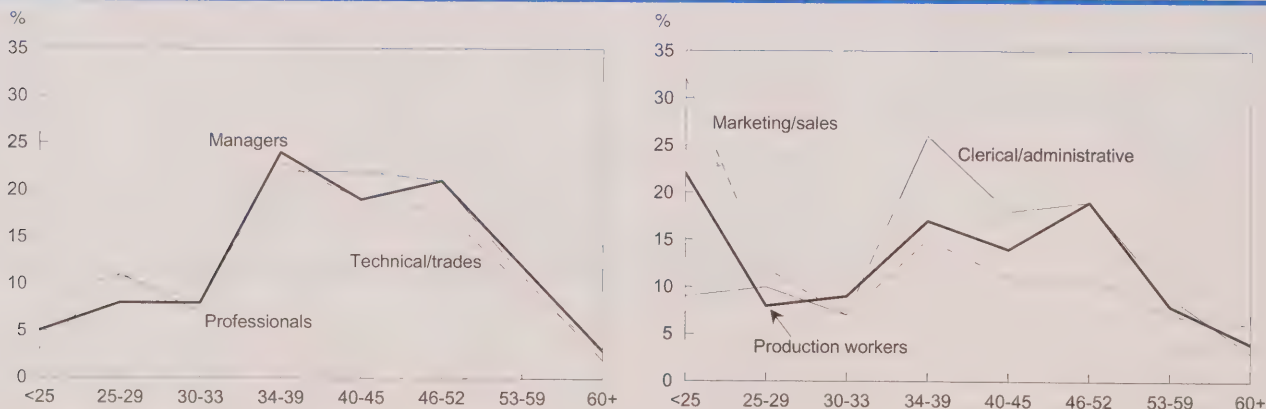
However, industries do not necessarily represent homogenous groups of employees. Occupational hierarchies exist within all industries, with the general pattern that people rise through the hierarchy as they gain experience. Thus managers and others near the top are typically older than those lower down and therefore more susceptible to the retirement crunch.

### Management and professional occupations lead the retirement wave

Managers do, in fact, comprise the oldest, most experienced group of employees. Fully 90% of managers had 10 years or more of experience, and 55% were 40 years of age or older. In comparison, just over a third (35%) of marketing and sales employees had reached age 40 (Chart B).

A look at occupations within industries shows that managers and professionals in the more vulnerable industries will be leading the retirement wave. The average age of a manager in education was 47.6, just 8.8 years shy of the median retirement age. Health care managers were 3.7 years younger on average than those in education, and 17.9 years away from their median retirement age. The age structure for professional occupations was identical in education and health care,

**Chart B: Occupations requiring more education or experience tended to have an older age structure.**



Source: Workplace and Employee Survey, 1999



and much older on average than in other industries. Managers and professionals in forestry, mining, and oil and gas were also somewhat older than those in most other occupations, but not as old as those in

education and health care. Production workers, who likely perform the physical labour associated with forestry, mining, and oil and gas were in the middle in terms of their age distribution (Table 2).

**Table 2: Average ages by industry and occupation**

	Mean	Median		Mean	Median
<b>Forestry, mining, oil and gas</b>			<b>Communication, other utilities</b>		
Managers	44.5 <sup>E</sup>	45 <sup>E</sup>	Managers	42.6	43
Professionals	42.7	40	Professionals	40.8	40
Technical/trades	41.0	41	Technical/trades	41.4	42
Marketing/sales	F	F	Marketing/sales	F	F
Clerical/administrative	37.6	36	Clerical/administrative	40.8	41
Production workers	37.3	37	Production workers	37.2	40
<b>Primary product manufacturing</b>			<b>Retail trade, consumer services</b>		
Managers	42.0	42	Managers	38.6	38
Professionals	38.2	38	Professionals	40.0	39
Technical/trades	42.2	43	Technical/trades	37.1	37
Marketing/sales	F	F	Marketing/sales	33.7	31
Clerical/administrative	40.8	41	Clerical/administrative	38.0	38
Production workers	40.0	40	Production workers	32.0	24
<b>Secondary product manufacturing</b>			<b>Finance, insurance</b>		
Managers	41.5	41	Managers	41.3	42
Professionals	38.4	37	Professionals	38.2	39
Technical/trades	39.1	40	Technical/trades	40.0	38
Marketing/sales	F	F	Marketing/sales	39.7	39
Clerical/administrative	40.4	40	Clerical/administrative	38.9	38
Production workers	37.1	38	Production workers	F	F
<b>Capital-intensive tertiary manufacturing</b>			<b>Real estate, rental, leasing</b>		
Managers	40.2	39	Managers	41.5	43
Professionals	36.9	37	Professionals	39.9	39
Technical/trades	40.4	39	Technical/trades	40.9	39
Marketing/sales	..	..	Marketing/sales	34.0	31
Clerical/administrative	39.6	38	Clerical/administrative	39.6	40
Production workers	36.6	31	Production workers	37.8	38
<b>Labour-intensive tertiary manufacturing</b>			<b>Business services</b>		
Managers	43.5	44	Managers	41.6	40
Professionals	34.4	31	Professionals	38.3	37
Technical/trades	40.2	40	Technical/trades	38.0	38
Marketing/sales	38.6	37	Marketing/sales	41.2	38
Clerical/administrative	36.2	35	Clerical/administrative	40.8	39
Production workers	40.7	39	Production workers	39.7	38
<b>Construction</b>			<b>Education, health care</b>		
Managers	43.4	43	Managers	46.2	48
Professionals	37.6	39	Professionals	43.1	44
Technical/trades	39.7	39	Technical/trades	41.9	42
Marketing/sales	F	F	Marketing/sales	F	F
Clerical/administrative	39.0	39	Clerical/administrative	41.6	42
Production workers	36.1	34	Production workers	42.6	44
<b>Transportation, warehousing, wholesaling</b>			<b>Information and culture</b>		
Managers	43.3	43	Managers	39.5	39
Professionals	38.7	39	Professionals	40.2	40
Technical/trades	39.6	39	Technical/trades	38.6	39
Marketing/sales	40.3	42	Marketing/sales	38.4	37
Clerical/administrative	39.1	39	Clerical/administrative	38.3	40
Production workers	38.2	39	Production workers	43.1	52

Source: Workplace and Employee Survey, 1999

Education and experience are clearly not the only explanations for the age structure of managers and professionals. Managers and professionals in other industries with high educational requirements were at least 4.6 and 4.8 years younger than those in education and health care. The story was somewhat different in communication and other utilities, which lacked the stark contrast in ages between the different occupations. In fact, only three years separated the median ages of all occupations except marketing and sales.

The younger industries showed considerably more variation in age by occupation. The clearest example was retail trade and consumer services, where the median age of managers was 38 compared with 24 for production workers. Again, this is likely due to the large number of part-time employees and lower education requirements in the latter occupational group.

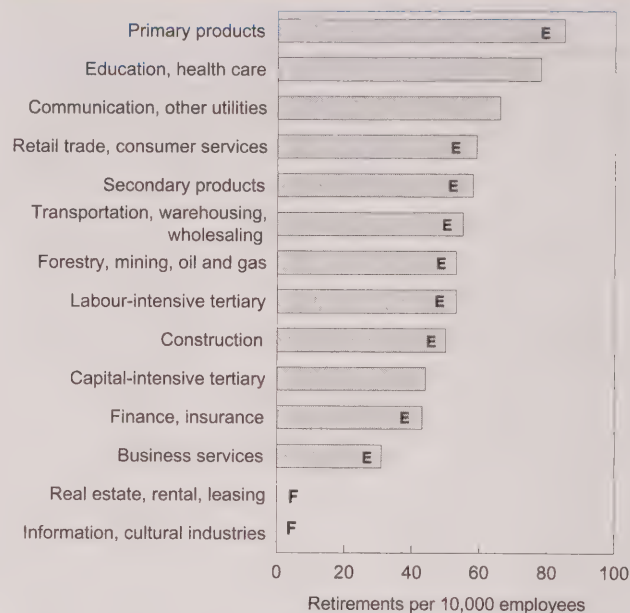
In general, managerial occupations appeared most vulnerable to baby boomer retirement since the average age of managers was under 40 in only 2 of the 14 sectors surveyed. However, several other industries will also experience considerable losses—especially in professional occupations, although technical/trades and clerical/administrative occupations will also be affected. Only marketing/sales positions and non-skilled production workers appeared to have relatively youthful age distributions.

To sum up, education and health care; forestry, mining, and oil and gas; and communications and other utilities sectors appear vulnerable because of their older age structures—particularly education and health care. While communications and other utilities had an older age distribution across all occupations, the distribution was more concentrated in managerial and professional occupations in education and health care; and forestry, mining, and oil and gas. This is especially important in education and health care, which had a higher proportion of managers and professionals. Secondly, it is not surprising that managers and professionals had the oldest age structures given the increased experience required of managers and the high level of education expected from professionals.

### Current retirement patterns

While the crest of the retirement wave is at least 8 to 10 years away—even in the most vulnerable industries—it may be instructive to look at the current situation. How closely do industrial patterns of retirements in 1999 (Chart C) align to the demographic factors noted above?

**Chart C: Retirement rates varied considerably by industry.**



Source: *Workplace and Employee Survey, 1999*

### Highest retirement rate in education sector

Education stands out as the industry with the highest rate of retirement in 1999 and the clearest indications of a rising retirement trend in the near future. Education had a estimated retirement rate of 121 per 10,000 employees in 1999—more than double the all-industry average and 42% higher than the next highest industry. Furthermore, demographic analyses indicate that approximately half the employees in this industry will retire within 12 years—half the managers within 9 years. Clearly, Canada's educational systems are fertile ground for human resource planning and development.

Primary product manufacturing had the next highest retirement rate in 1999, at 85 per 10,000 employees. This industry also had an older-than-average age distribution, but manufacturing industries in general had retirement ages close to the all-industry median. So replacement pressures are not looming as ominously as in the education sector.

Other industries with older workforces had relatively low retirement rates in 1999. Business services had the lowest rate—good news considering its older age



structure and high educational requirements. While health care was also among the sectors with older workforces, its retirement rate of 56 per 10,000 in 1999 barely exceeded the all-industry average of 54.

On the flip side, the higher-than-average retirement rate in retail trade and consumer services was somewhat unexpected given its very youthful age structure. However, managers and professionals in this sector did not differ greatly in age from those in many other industries.

### Vacancy rates

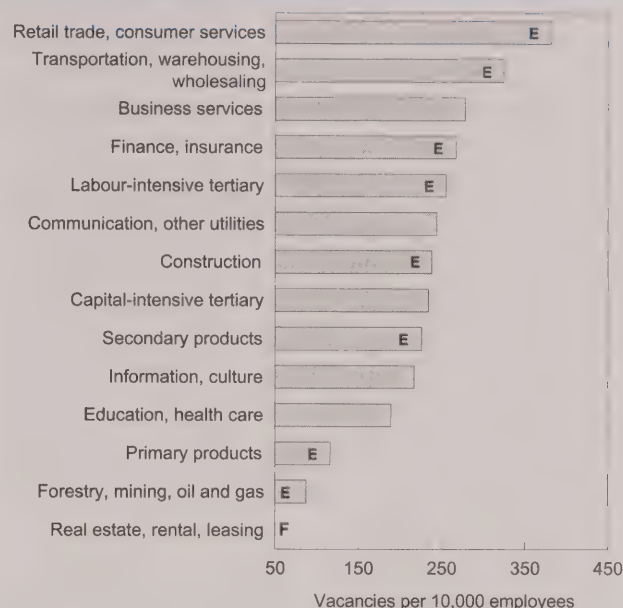
Workforce demographics—age, education and experience—are attributes of the labour supply. The other major force acting on labour markets—the human resource requirements of employers—is labour demand. Unmet labour demand is measured by vacancies—jobs that remain unfilled despite active recruitment. It is possible that labour supply constrictions may be altered by trends such as changing demand for different types of products and services, or the substitution of capital (machinery and equipment) for labour.

Although it is beyond the scope of this paper to forecast sectoral labour demand, the Workplace and Employee Survey does collect information on current vacancies. Vacancy rates by industry may help to determine whether aging is already affecting some sectors. Note that these vacancies were measured in 1999 and were subject to the cyclical and demographic conditions of that year: growing GDP and employment.

#### Highest vacancy rate in retail trade and consumer services

Vacancies per 10,000 employees were used to examine the degree to which various industries were having difficulty finding employees in 1999 (Chart D). Retail trade and consumer services had the highest vacancy rate at 381 vacancies per 10,000 employees; transportation, warehousing, and wholesale trade had 324. Business services, with an age distribution toward the upper end of the average and high educational requirements, also had a relatively high vacancy rate (278). Primary product manufacturing had one of the lowest vacancy rates, just 116. The news was mixed for education and health care; education had a vacancy rate of just 137, compared with 214 for health care. Forestry, mining, and oil and gas had just 87 vacancies per 10,000 employees, again likely because of the decreased employment in this sector.

**Chart D: Retail trade and consumer services had the most difficulty finding employees.**



Source: Workplace and Employee Survey, 1999

In general, vacancies were relatively low in those sectors identified with some demographic vulnerabilities. If anything, vacancies tended to be higher in industries with younger workforces and lower wages. Thus the job shopping and sorting associated with younger workers currently overshadows the still early effects of boomer retirement, at least in terms of recently reported vacancies.

### Conclusion

Although the retirement effects of an aging population will eventually be felt in all sectors, some industries will feel the pinch earlier than others. The education sector stands out with a high average workforce age, particularly for managers, and a low median retirement age. Rough estimates indicate that about half the education workforce is likely to retire within 12 years—9 years for managers. Furthermore, the retirement rate in the education sector was already more than double the economy-wide average in 1999. On the positive side, the vacancy rate in education was relatively low in 1999.

Health care also had an older workforce, but the median retirement age was about five years later than in education. Health care's current retirement and vacancy rates were also near the middle of the pack. However, several factors make a case for vigilance in this industry. First, an aging population is likely to increase the demand for health-care services, thereby putting pressure for growth on the workforce as its retirement rate increases. Second, it takes a long time to educate health professionals, increasing the imperative for long-range planning. Finally, health care consistently tops the list of policy issues most important to Canadians, so whatever measures are taken will be closely scrutinized.

Among other industries, only the utilities sector had an older than average workforce and median retirement age less than 60 in 1999. For most private-sector industries, turnover for reasons other than retirement will command more attention in the immediate future. Typically, turnover tends to be highest in sectors that pay relatively low wages and employ a high proportion of younger workers, particularly part-time workers. However, even some high-wage, high-skill industries (notably finance and insurance, and business services) had relatively high vacancy rates in 1999. Although these vacancy rates may have been caused primarily by strong economic growth in that year, they may also hint at a growing relative demand for more highly skilled workers.

One demographic factor common to nearly all industries was the older age of the managerial ranks. This is to be expected, since it generally requires some time to acquire the experience and skills required to manage. However, this demographic pattern highlights the fundamental necessity of succession planning within most organizations. In the coming years, management succession planning will be complicated—at various times in various industries—by retirements in mid-level jobs,

which normally provide the recruiting pools for management. And, since managerial skills (and indeed many other skills) are transferable across sectors, it is not realistic to expect retirement pressures to be isolated within industry stovepipes. Replacement demands in any industry will likely have a ripple effect throughout the economy.

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## Perspectives

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# Men 55 and older: Work or retire?

Roman Habtu

**S**LOW POPULATION GROWTH has made the population 55 and over an important potential source of labour. Nearly one-third of Canada's adult population in 2001 was at least 55. The relative size of this group is projected to increase to 40% by 2026, primarily because the baby boomers are aging.

Public attention is generally focused on the employed and unemployed, and relatively little attention is paid to those who are not active in the labour market (see *Data sources and definitions*). The inactive, however, are a potential source of labour. For example, when the economy is expanding, many people who have given up looking for work are drawn back into the labour market.

As the baby boomers gave way to smaller generations, labour force growth became fuelled by immigration and the growing participation of women. Since the participation rates of women are approaching those of men, this potential source of growth no longer exists. The sources remaining are immigration, which is a well-studied topic, and the older inactive, which is not.

What are the characteristics of men 55 years and over who are no longer active in the labour market, and what are their reasons for leaving their last job? Is inactivity 'voluntary' (retirement, personal or family responsibilities) or 'involuntary' (disability, layoff, or other economic conditions)?<sup>1</sup> Are international trends comparable (see *International comparisons*)? These questions address the feasibility of the older inactive as a source of labour.

## Labour market inactivity rising among older men

Labour market inactivity varies over the life cycle. It is typically high for youth (15 to 24) attending school, and low during the active working years (25 to 54).

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## Data sources and definitions

The **Labour Force Survey (LFS)** is a monthly household survey that collects information on labour market activity from persons 15 years of age and over. The LFS divides the working age population into three mutually exclusive categories: employed, unemployed and not in the labour force.

**Labour market inactivity** refers to persons who are neither employed nor unemployed.

**Labour market inactivity rate**, also referred to as the **economic inactivity rate** (see *International comparisons*), is inactive persons as a percentage of the population in the same age group.

The **short-term inactive** are individuals whose last employment ended in the previous 12 months. The **medium-term inactive** ended their job in the previous 13 to 60 months; and the **long-term inactive**, 61 or more months ago.

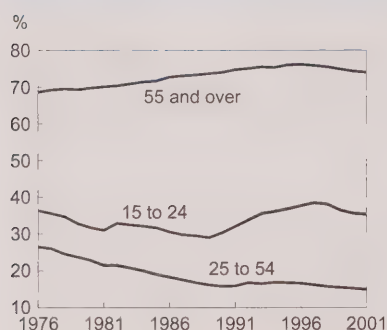
The detail the LFS collects about those not in the labour force depends on the length of time the individuals have been inactive. For those who became inactive in the previous 12 months, detailed reasons for leaving last job (such as retirement, personal or family responsibilities, or economic conditions related to the employer or the economy) are collected, as well as industry, occupation, and class of worker status of last employment. Educational attainment is available for all, regardless of length of inactivity.

**OECD Labour Force Statistics** is an annual publication providing detailed labour market information based on the national statistics of member countries. The data series in the publication conform with the international definitions adopted by the ILO/OECD. Nonetheless, important conceptual and methodological differences exist in the statistics compiled by different countries (for example, the labour force in the United States and the United Kingdom refers to persons 16 years and over). International comparisons must therefore be made with caution and regarded only as providing approximate trends.

Inactivity rises continuously in later years (55 and over) and depends on a range of personal, economic and social factors. While labour market inactivity among youth is generally temporary, inactivity among older workers is often a permanent withdrawal from the labour market.

From 1976 to 2001, the inactivity rate among workers aged 25 to 54 dropped 12 percentage points (from 27% to 15%), largely because of the increased participation of women (Chart A). By contrast, the rate among those 55 years and over increased by 5 percentage points (from 69% to 74%).

**Chart A: The labour market inactivity rate is highest for those 55 and over.**



Source: Labour Force Survey

The growing inactivity of the older population is caused primarily by the falling participation of older men. The growth in inactivity is concentrated among men 55 to 64 (Chart B). Some of the increase can be attributed to institutional factors, such as the lowering of the minimum age for drawing benefits from the Canada and Quebec Pension Plans in the late 1980s, the recession of the early 1990s (which affected older workers particu-

larly), government downsizing, and the use of early retirement for workforce adjustment (Sunter 2001).

On the other hand, the rising tide of labour participation among women extended to the older age groups. Labour market inactivity fell for women aged 55 to 64 while it remained stable for those 65 and over.

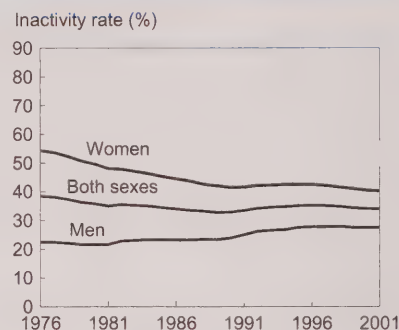
### A focus on men 55 to 59

Although the decision to retire is a personal one based on a number of factors, a general trend to earlier retirement (increased inactivity) could have widespread consequences as the population ages.<sup>2</sup> The labour market would lose a wealth of experience and potential economic contribution if inactivity continues to rise among those aged 55 to 59. If inactivity were involuntary, men in this age group would face financial consequences since 60 is the minimum age for receiving Canada or Quebec Pension Plan benefits. According to life expectancy calculations, a 55 year-old man can expect to live, on average, an additional 20 years. Even when adjusted for disability, the calculation shows that he has on average 10 more years of disability-free life expectancy.<sup>3</sup>

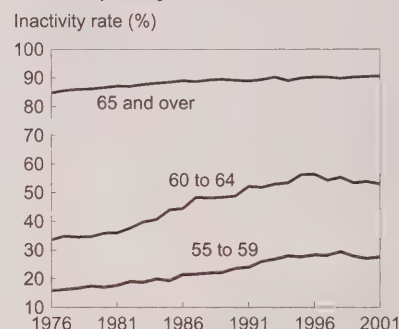
At some age, attachment to the labour market dramatically declines or ceases completely. Those 70 years and over would largely be in this category.<sup>4</sup> Thus one would expect the share of inactivity among those 55 and over to be heavily weighted by older Canadians approaching permanent withdrawal from the labour market. However, in the 55 to 69 age group, the largest increase in labour market inactivity came from those aged 55 to 64. The proportion of

inactive men 55 to 59 rose by 2.5 percentage points between 1976 and 2001, while their population share increased only 0.8 points (Table 1). The population share of those 60 to 64 was unchanged, but the proportion inactive rose by 2.2 points. For those 65 to 69, the proportion remained constant.

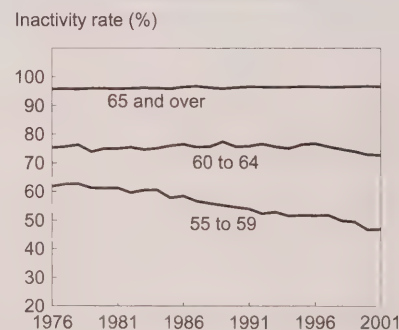
**Chart B: Labour market inactivity has been rising for men and falling for women.**



#### ...especially for men 55 and over



#### ...and women 55 to 59



Source: Labour Force Survey



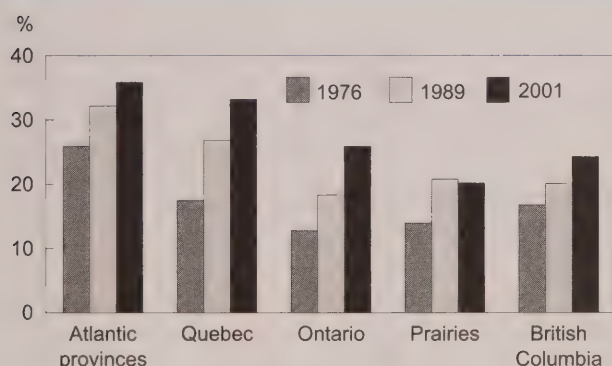
**Table 1: Men not in the labour market, by age**

	Population		Inactive	
	1976	2001	1976	2001
	'000			
15 and over	8,454.0	12,098.0	1,890.0	3,328.8
55 to 69	1,263.1	1,950.7	477.5	996.9
55 to 59	493.6	795.9	78.4	219.7
60 to 64	433.9	621.0	145.4	329.4
65 to 69	335.6	533.8	253.7	447.8
	%			
15 and over	100.0	100.0	100.0	100.0
55 to 69	14.9	16.1	25.3	29.9
55 to 59	5.8	6.6	4.1	6.6
60 to 64	5.1	5.1	7.7	9.9
65 to 69	4.0	4.4	13.4	13.5

Source: Labour Force Survey

The labour market inactivity rate of men aged 55 to 59 increased from 16% in 1976 to 28% in 2001, after peaking at 29% in 1998 (Chart B). In 1976, 78,000 men 55 to 59 were inactive in the labour market. By 2001, the number had climbed to 220,000. This is more than the annual average influx of immigrants (212,000) between 1997 and 2001.

The inactivity rate has risen in all regions since 1976 (Chart C). The rate falls from east to west, with the Atlantic region having the highest and the Prairies the

**Chart C: Labour market inactivity rose in all regions, remaining highest in the east.**

Source: Labour Force Survey

lowest in 2001. Although the inactivity rate is affected by regional labour market conditions, it is also influenced by myriad personal, social and economic factors.

Given the long-term increase in labour market inactivity among men 55 to 59, what are their characteristics and what are the reasons for leaving their last job? Are the recent declines a reversal of long-term trends? Are these trends observed in other countries?

### Most have been out of the labour market for more than a year

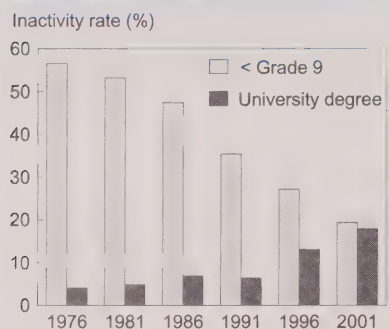
Even though factors underlying inactivity may have changed, a majority of inactive men 55 to 59, both in 1989 and in 2001, ended their last job more than a year earlier. The short-term inactive proportion dropped from 26% in 1989 to 19% in 2001, while the proportion who worked in the previous 13 to 60 months remained virtually unchanged (40% in 1989 and 42% in 2001). The proportion of long-term inactive rose slightly (from 34% in 1989 to 40% in 2001).

This rise may signal a troubling trend. The long-term inactive would have left at age 50 to 54, implying that relatively young workers may be leaving the labour force at a time of slow population growth. Furthermore, a majority (93%) of inactive men in 2001 did not want a job, according to the Labour Force Survey.<sup>5</sup> A recent study also showed that over half of 55 to 59 year-olds who voluntarily ended their job were still not working two years later, indicating that they may be leaving permanently (Pyper and Giles 2002).<sup>6</sup>

### Education

The past 25 years have witnessed enormous change in the educational profile of inactive men aged 55 to 59. In the 1970s, labour market inactivity was almost exclusively the domain of less-educated men (Chart D). Now the inactivity rate of university-educated men in this age group is nearly equal to that of men with only an elementary school education. The gap between those with a university degree and those with eight years or less education was over 50 percentage points in 1976. By 2001, it had narrowed to less than 2 percentage points with 18% of inactive men in this age group holding a university degree. In the same year, the proportion of men with eight years or less of education had fallen to less than 20% from nearly 60% in 1976.<sup>7</sup>

**Chart D: The educational attainment of inactive men 55 to 59 has risen over time.**



Source: Labour Force Survey

Note: The education variable was revised in 1990. Only the above two are consistent.

These improvements reflect the rising educational attainment of the population as a whole. It is also possible that those with higher levels of education have access to better pensions that make early retirement more attractive.<sup>8</sup> Regardless of what prompts labour market inactivity, its increase among an age group characterized by both experience and a rising level of educational attainment indicates the loss of a skilled labour resource.

### The short-term inactive

The short-term inactive make up nearly 20% of those currently inactive in the labour market. Although small in number, the analytic importance of this group lies in the availability of information about their previous job and their reason for leaving it.<sup>9</sup> The occupation, industry, and reason for leaving may provide clues to prolonging their attachment to the labour market.<sup>10</sup> Furthermore, in contrast to those who have been inactive longer, the short-term inactive may be able to re-integrate into the labour market

relatively quickly. Compared with all inactive men aged 55 to 59 in 2001, twice as many of the short-term inactive stated that they wanted a job.

### Most were in the private sector

The share of short-term inactive men previously employed in the private sector rose more than for any other group over the 1989 to 2001 period. While both the public and private sectors lost proportionately more men aged 55 to 59 to labour market inactivity in 2001 (25% and 61% respectively) than were employed in these sectors in 2000 (17% and 54%), the public sector was hit harder proportionately (Table 2).<sup>11</sup> The proportion recently self-employed also rose in 2001 (14%).<sup>12</sup>

The rise in inactivity among those who had been self-employed is a bit puzzling given that in 2000 the median age of retirement for self-employed men was higher than the median for all men (66.4 versus 61.8). Self-employment increased over the 1988 to 2000 period among men aged 54 to 58 (that is, the years and age in which the short-term inactive were working). Self-employment may therefore have been a transition from employment to labour market inactivity. Older workers may use self-employment to supplement pension income or simply to remain in the labour market prior to permanently exiting.

**Table 2: Short-term inactive men by attributes of last job**

	Short-term inactive men 55 to 59		Employed men 54 to 58	
	1989	2001	1988	2000
	%			
<b>Class of worker</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Employees	87.4	86.0	75.2	70.7
Public sector	28.4	24.8	20.5	17.2
Private sector	59.0	61.2	54.7	53.5
Self-employed	12.5	14.0	24.8	29.3
<b>Industry</b>		<b>100.0</b>		<b>100.0</b>
Goods-producing		42.0		36.5
Service-producing		58.0		63.5
<b>Occupation</b>		<b>100.0</b>		<b>100.0</b>
Management		10.4		15.7
Business, finance and administrative		8.6		10.2
Natural and applied sciences and related; health; art, culture, recreation and sport*		9.4		10.7
Social assistance, education, and government services		9.9		7.2
Sales and service		12.4		15.7
Trades, transport and equipment operators		29.1		25.9
Unique to primary industry		7.9		5.9
Unique to processing, manufacturing and utilities		12.4		8.8

Source: Labour Force Survey

\* Combined because of small sample sizes.



A majority of the short-term inactive were last employed in services. However, in 2001, goods industries lost proportionately more men aged 55 to 59 to labour market inactivity (42%) than were employed there in 2000 (36%). Half of the short-term inactive in goods industries said they left for reasons of retirement. An even higher proportion (64%) of those previously employed in manufacturing said they left for this reason (figures not shown).

The highest proportion of the short-term inactive came from trades, transport and equipment operators (29%), followed by sales and service; processing, manufacturing and utilities (12%); and occupations in social science, education and government services (10%). However, for four occupations—processing, manufacturing and utilities; trades, transport and equipment operators; primary; and social science, education and government services—the share of the short-term inactive was significantly higher than their share among those employed in these occupations in 2000.

The proportion of short-term inactive men in social science, education and government service occupations may reflect early retirement trends in the public sector. Three-quarters of the men in these occupations cited retirement as the reason for leaving their last job. Furthermore, these occupations had the lowest median retirement age (57.3) in 2000 and one of the largest proportion of employees 55 and over (Labour Force Survey 2001).

### Retirement the primary reason for leaving last job

In 2001, half of the short-term inactive cited retirement as the reason for leaving their last job,

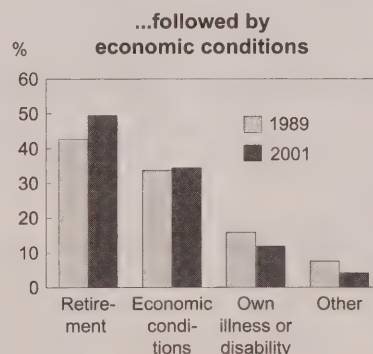
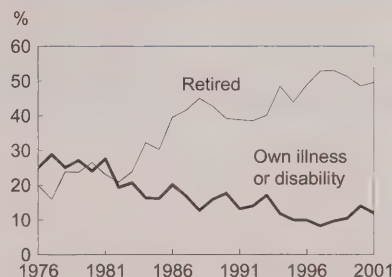
compared with only 20% in 1976 (Chart E). The shift to early retirement could be influenced by a number of factors, ranging from personal (such as health, income, and leisure interests) to social and economic (the state of the economy, labour demand, and social policies). Pension coverage would be an important element of this decision; higher pension plan coverage rates in Newfoundland and Labrador and Quebec have been linked to early retirement trends in these regions (Kieran 2001).<sup>13</sup>

As well, those who cited retirement as a reason for leaving their last job were more likely to be highly educated, and it has been shown that pension coverage increases with

educational attainment (Morissette and Drolet 2001). While 18% had a university degree in 2001, the rate rose to 23% for those who had retired, reinforcing the possibility of higher pension benefits among this group.

Tax data demonstrate the increasing importance of pensions; average pension income for all men 55 to 59 increased more than \$3,000 between 1989 and 1999 while income from employment declined (Chart F).<sup>14</sup> Income from self-employment also rose, further strengthening the suggestion that this may provide a transition mechanism for men in this age group. Other income and government transfers increased as well, while income from investments declined.<sup>15</sup>

**Chart E: Retirement as a reason for leaving the labour market has been rising...**



Source: Labour Force Survey

### Economic conditions also important

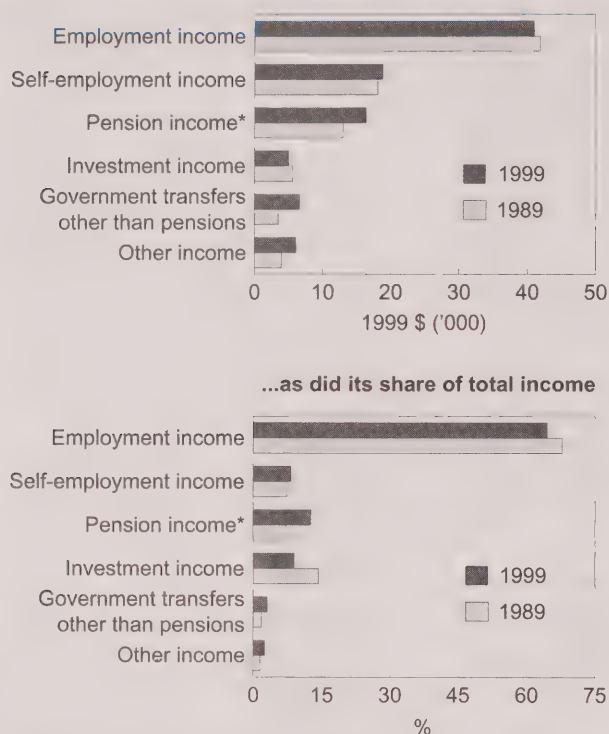
Economic conditions, the second most important reason for leaving the last job (Chart E), were cited by over one-third of the short-term inactive in 2001—a proportion almost unchanged from 1989, an expansionary year. Recent studies have also shown that job separation among men 50 to 65 was largely due to involuntary separation caused by layoff (Rowe and Nguyen 2003).

Among those in 2001 who left their last job for economic reasons, 13% cited business conditions (including business closing down or sold), 12% the end of a seasonal job, and 5% the end of temporary or contract work.

### Disability

In 1976, one in four recently active men 55 to 59 cited own illness or disability rather than retirement as the reason for leaving their last job (Chart E). By 2001, this proportion

**Chart F: The average pension income for men 55 to 59 rose between 1989 and 1999.**



Source: Canada Customs and Revenue Agency

\* Includes CIQPP benefits, other pensions or superannuation, annuity and RRSP income.

had dropped by half to 12%. One explanation for the trend may be the overall improvement in health across the population. Another factor may be related to the positive association between education and health. A relatively low proportion of those with a university degree cited disability as a reason for leaving their last job (11% compared with 18% overall).

The Canada and Quebec Pension Plans (C/QPP) provide the single largest disability program in Canada. The CPP disability benefit (CPP-D) is the only portion of the CPP other than the survivor benefit payable prior to age 60. Workers who meet the medical requirements and have contributed to CPP in four of the previous six years are eligible. Over the 1981 to 2001 period, the CPP-D rate (CPP-D beneficiaries as a percentage of the labour force) for men 55 to 59 increased by over 2 percentage points (from 3.5% to

## International comparisons

In the United States, the inactivity rate exhibited a pattern similar to Canada, rising for men and falling for women aged 55 to 59 during the 1980 to 2000 period (Chart G). For men, the inactivity rate rose in 2000 following a period of decline after its peak in 1994.\*

The United Kingdom showed the same pattern. Between 1984 and 2000, the overall inactivity rate rose 8% for men 55 to 59 and fell 6% for women.\*\*

In France, the labour market inactivity rate for men 55 to 59 rose from 19% to 34% over the 1980 to 2000 period while declining for women, thus narrowing the gap between the two.

In Germany, the inactivity rate for men aged 55 to 59 rose from 1980 to 2000. The rate peaked at 29% in 1994 before beginning a steady decline in the following year.

In Japan, the rate for men aged 55 to 59 is much lower than any of the G-7 countries and has continued to decline for both men and women.

In Italy, the reference population is men aged 50 to 59, and the decline is more recent, following an almost continuous rise since 1980. While falling in recent years, the 2000 rate is still almost double that in 1980.

\* The United States does not have the same population pressures as Canada. Between 1990 and 2000, the United States population grew by 13% compared with 11% in Canada (U.S., Census Bureau; Statistics Canada Annual Demographic Statistics, 2001).

\*\* In the United Kingdom, the term 'economic inactivity' is used to describe the state of the population not in the labour force. In recognition of this population as potential labour supply, a series of articles have recently focused attention on this issue (Barham 2002).

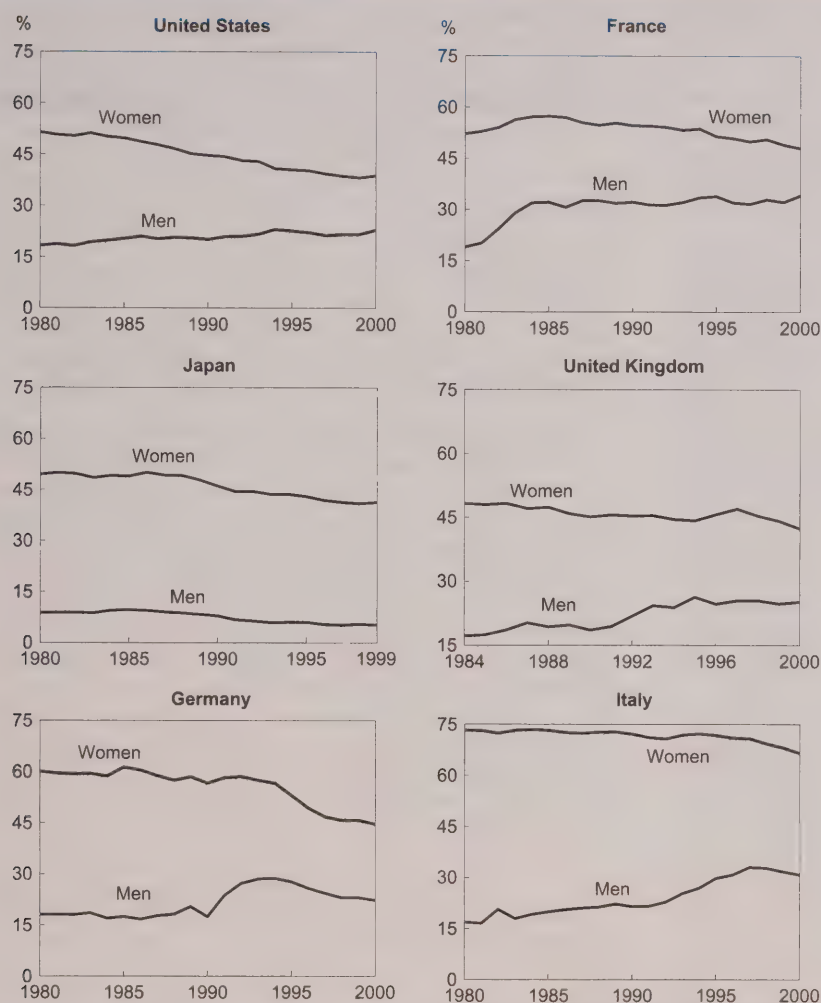
5.7%). The trend in CPP-D receipt is opposite that of disability reported in the Labour Force Survey, but the two rates are not comparable. First, the LFS does not ask the reason for being out of the labour force, only the reason for leaving the last job. Second, CPP-D receipt is for a smaller proportion than those who reported leaving work due to illness or disability.

## Conclusion

Men 55 to 59 no longer active in the labour market are an important source of potential labour supply in an era of slow population growth. Rising labour market inactivity among increasingly skilled older men poses a significant potential economic loss. Over the 1976 to 2001 period, recent cohorts of men inactive in the labour market demonstrated higher levels of



**Chart G: The labour market inactivity rate of 55 to 59 year-olds varied considerably by country.**



Source: OECD Labour Force Statistics  
\* Age 50 to 59

educational attainment. The proportion with a university degree increased from 4% in 1976 to 18% in 2001, while the proportion with only grade 8 education fell from 57% to 19%.

Retirement is the primary reason for leaving the last job. In 2001, half of 55 to 59 year-old men who had worked over the previous 12 months cited retirement as the reason for leaving their last job, while a third claimed economic conditions. Fewer left because of illness or disability than in the past—this reason for inactivity dropped by nearly half between 1976 and 2001.

For all men 55 to 59, the average level and share of pension income rose over the 1989 to 1999 period. These trends further corroborate results indicating early retirement as a reason for labour market inactivity.

If labour shortages do develop in coming years, the incentive effects of public and private pensions, implicit taxes (for example, clawbacks, public pension adjustments) and other government transfer programs will bear examination.<sup>16</sup>

### Perspectives

#### Notes

1 The voluntary/involuntary categories are broad, general depictions of circumstances rather than rigid demarcations. In this study, voluntary refers to personal decisions in response to personal or labour market conditions. Retirement is included as voluntary because there is no statutory retirement age in Canada except for some small groups. Moreover, except for disability benefits, public pension plan benefits (Canada and Quebec Pension Plan benefits) cannot be collected prior to age 60. A penalty is incurred between age 60 and 64; full pension benefits are received only by those 65 and older (Kieran 2001). Involuntary labour market inactivity refers to factors beyond the individual's control, such as disability, layoff or other economic conditions.

2 The ratio of inactive to active adult life has grown over time due to increased life expectancy (Sunter 2001). In an environment of slow population growth, increased inactivity among men 55 to 59 can exacerbate this situation.

3 Disability-free life expectancy refers to life expectancy that is free of activity limitation. The disability-free life expectancy for men was estimated to be 65.5 years based on the 1996 census (*Health Reports*, 2001 Annual Report. Statistics Canada, Catalogue no. 82-003-XIE). These estimates will be updated following the complete release of the 2001 census results.

4 While many people, mostly men, continue employment after age 65, the majority are less than 70 (Duchesne 2002).

5 In the Labour Force Survey, the question is not asked of those who say they are permanently unable to work.

6 The study is based on the longitudinal Survey of Labour and Income Dynamics (SLID). Job refers to a career job, which is defined as a job with a 35-hour workweek held for at least eight years.

7 In 1990, questions pertaining to educational attainment in the Labour Force Survey were revised. Comparisons before and after 1990 must therefore be made with caution. The levels of education in the chart were included in the series prior to and after the revisions.

8 This needs to be qualified. Recent cohorts of men 55 to 59 who remained active in the labour market also had higher levels of education. Education may be one among a number of personal and social factors prompting a transition into labour market inactivity.

9 Since the redesign of the Labour Force Survey in 1997, detailed job information (occupation, industry, class of worker) is available only for those who were active in the previous 12 months.

10 About 60% of older workers, those 50 and over, who involuntarily ended their career job returned to employment within 24 months (Pyper and Giles 2002). This suggests that the short-term inactive may be more likely to return to the labour market.

11 The short-term inactive were employed in the previous 12 months (that is, 2000 for those who became inactive in 2001) and were one year younger (hence the reference to 54 to 58 years for this population group).

12 It would be interesting to explore further whether the length of inactivity varies by type of previous employment. A study using SLID found that a higher proportion of older workers who left self-employment returned to employment within two years (Pyper and Giles 2002).

13 In the case of Newfoundland and Labrador, the high early retirement rate was also associated with a high provincial unemployment rate.

14 Demographic trends did see an increase in the share of men 55 to 59 in the population (0.3 percentage points from 1989 to 1999). However, their share in the total population receiving pension income also increased by the same proportion.

15 Government transfers include Employment Insurance benefits and tax exempt income in 1999, and Unemployment Insurance benefits and family allowance in 1989.

16 For a more complete discussion on this topic, see Morley Gunderson, *Income Security Programs—Simulations of Incentive Effects of Private and Public Pensions*. Human Resources Development Canada Evaluation Report SP-AH086-05-01E, May 2001. Internet: <http://www11.hrdc-drhc.gc.ca/edd-pdf/siepp.pdf> (accessed December 6, 2002).

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# Older workers and the labour market

Geoff Rowe and Huan Nguyen

**O**LDER WORKERS have special concerns. They may be anticipating or already experiencing health problems involving either themselves or family members. They may have developed interests outside work that they wish to pursue. Both possibilities offer older workers good reasons to voluntarily withdraw from the labour market. However, some older workers may leave the labour force involuntarily. Older workers who remain in or return to the labour market may experience age discrimination, either by finding their job opportunities reduced, or having to accept lower-quality or lower-waged jobs (Hutchens 1988). Some may even conclude that further job search is fruitless. The resulting 'hidden unemployment' could resemble retirement (Osberg 1993; Samorodov 1999). On the whole, involuntary aspects of labour market withdrawal are ignored in analysis of retirement behaviour (Chan and Stevens 2001). This article evaluates the relative importance of retirement and involuntary job loss using self-reported reasons for job separation in cohorts of older workers (see *Cohort incidence rates*).

## Cohort career perspectives

Most often, analysts track changes in labour markets from month to month or from year to year as market conditions follow the ups and downs of the economy. An alternative, especially to describe the process whereby older workers wind up their careers, is to look at groups born in the same period—a cohort perspective. This article focuses on individuals who turned 50 years of age between 1976 and 1979. These cohorts' patterns of job separation and job acquisition in the years leading up to age 65 were reconstructed using data from 20 years of Labour Force Survey (LFS) files (see *Data source and definitions*).

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## Data source and definitions

### Job separations and acquisitions by reason

Comparing **Labour Force Survey** (LFS) responses for two consecutive months allows the identification of respondents who have just ended a period of employment and their self-described reasons for leaving. These reasons can be broadly categorized as involuntary ('laid-off' or 'own illness or disability') or voluntary ('retirement,' 'personal or family responsibilities,' 'dissatisfied with job' or 'other reasons'). Further, the labour force state into which respondents moved distinguishes between 'permanent' and 'temporary' layoffs. (However, in past years, temporary layoffs that were scheduled to last more than a year were not counted, and respondents who began a spell as 'unemployed, temporary layoff' may have been coded differently in subsequent months (for example 'not in the labour force, able to work'). Job switchers—respondents who moved from one main job to another, but who were employed at each consecutive LFS interview—can also be identified. Finally, respondents who had just returned to employment can be identified, and if that return took place within 12 months of the preceding job separation, the reason for the separation is available. Accumulating such data over years allows the reconstruction of the average experience of a cohort expressed as incidence rates for events classified by cohort, age and associated reasons (event types).

The cohort perspective is especially valuable in determining the chances of eventual retirement. In the early 1900s, when farming was still a major source of employment, many people continued to work until poor health or death intervened. The probability of ever retiring was low. In contrast, today's typical career is more likely to end in retirement. However, it is difficult to say how much more likely retirement is now than previously. To do so, it would be necessary to ask workers if they were withdrawing from the labour market because of retirement or ill health. Similarly, some older workers may lose their jobs before choosing to retire; some of these are better described as involuntarily unemployed than retired. Again, to classify them correctly, it would be necessary to determine their intention.

Men are traditionally seen as working continuously at a full-time job until retirement, at which point they leave the labour force and remain permanently retired. However, this picture is far from complete (Blau 1994). By tracking the cumulative incidence of job separation and job acquisition of selected cohorts between the ages of 50 and 65, it is possible to identify self-described retirement as well as other patterns of labour market activity. Classifying events according to the reason given for job separations provides some sense of workers' intentions (Table).

**Table: Job separation and acquisition between ages 50 and 65**

	Cohort incidence rates*			
	Job separation		Job acquisition	
	Men	Women	Men	Women
<b>Involuntary</b>	<b>1.98</b>	<b>1.55</b>	<b>1.53</b>	<b>1.14</b>
Layoff	1.71	1.32	1.37	1.02
Temporary	0.41	0.30	0.37	0.27
Permanent	1.30	1.02	1.00	0.76
Illness/Disability	0.27	0.23	0.16	0.12
<b>Voluntary</b>	<b>0.89</b>	<b>0.86</b>	<b>0.40</b>	<b>0.39</b>
Retirement	0.51	0.30	0.14	0.07
Family reasons	0.02	0.17	0.01	0.10
Dissatisfied	0.06	0.09	0.03	0.05
Other	0.30	0.29	0.22	0.17
<b>Job switchers</b>	<b>0.37</b>	<b>0.20</b>	<b>0.37</b>	<b>0.20</b>
<b>Job acquisition after 12 months</b>	<b>...</b>	<b>...</b>	<b>0.39</b>	<b>0.50</b>
<b>All</b>	<b>3.24</b>	<b>2.61</b>	<b>2.69</b>	<b>2.24</b>

Source: Labour Force Survey, 1976-2001

\* Averages for cohorts who turned 50 between 1976 and 1979; reasons for current or previous job separation as stated by respondents.

### Only about half of men and one-third of women ever retired

Retirement as a self-reported event appears to be relatively infrequent. Only about 51% of men and 30% of women in the selected cohorts had retired from a job by age 65. Seen another way, only about 16% of all job separations by men aged 50 to 65 were retirements; for women, the percentage was 12%. Therefore, in many cases, the job separation that ultimately ended a career must have been a layoff, an illness or disability, or a family-related event.

Estimates of job acquisition indicate that, by age 65, 14% of men and 7% of women had retired and then started a new job within a year—about 27% and 23% of retirees. This is a significant proportion. Trying to determine who would qualify as retirees in the traditional sense—those who retired between ages 60 and 65 from a job held since at least age 50—shows that only 20% of men and 10% of women fit the pattern.

### Older workers had considerable job turnover

The cumulative total of job separations between ages 50 and 65 averaged 3.2 for men and 2.6 for women. Since only one final separation is possible, the others must have been part of the normal labour market churn. Indeed, the majority of separations involved a layoff—more often permanent than temporary—and a considerable number involved job switching. Less often, job separations were associated with illness or disability, which would not necessarily have resulted in a permanent separation.<sup>1</sup> Overall, about 60% of all job separations, for both men and women, could be classified as involuntary. Other than retirement, family reasons and job dissatisfaction were cited least frequently; however, a considerable fraction of separations remained unclassified under 'other' reasons.

Since the overall incidence of job separation was substantially greater than one, subsequent job acquisition must have been considerable. This is indicated by the overall averages of 2.7 acquisitions for men and 2.2 for women between ages 50 and 65. These typically followed within 12 months of job separation. Most instances of involuntary job separation were followed by a job acquisition within 12 months. Job acquisition occurred less frequently after voluntary job separation and was least likely following a self-described retirement event.

### Employment attrition similar for older and younger workers

The high rates of job change experienced within these cohorts contradict the view that careers of older workers are characterized as either a process of gradual disengagement or a stable plateau preceding an abrupt final withdrawal. But does the apparent volatility of work among older workers result because the job-separation rates of older workers are particularly high?

One index of employment attrition is the proportion having lost a given job after a specified time. These one-year, job-separation rates are calculated for men



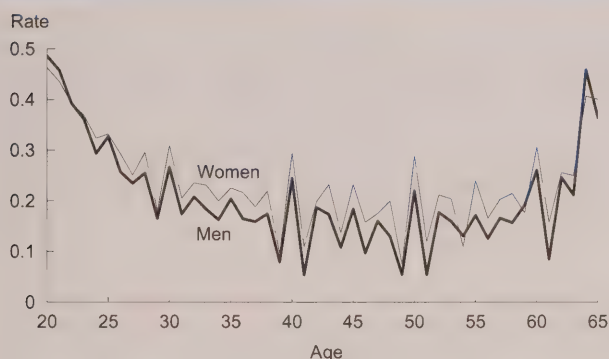
and women by single year of age averaged over a 25-year period—a period long enough to represent a full range of economic conditions. The rates are derived from estimates of those employed in a job for one year or more and are expressed as a proportion of those employed a year earlier and a single year of age younger.

From 30 to 60 years of age, workers had similar one-year rates of job separation averaged over multiple macro-economic cycles (Chart A). (Averaging over 25 years has the disadvantage of averaging over secular trends as well as economic cycles. In particular, the age profiles of employed women changed markedly over the period.) Employment attrition rates were highest for those under 25 and those over 60. In the latter case, one-year job-separation rates seemed exceptional only near the traditional age of retirement.

### Lower employment for older workers

If the declining labour market activity of older workers cannot be explained by rates of employment attrition that increase with age, then part of the explanation must lie in lower rates of re-employment. Re-employment ratios representing persons who are employed but with job tenure of less than one year complement one-year attrition rates. They do not measure flows into employment; rather, they represent jobholders with recently acquired jobs as a proportion of the population excluding longer-tenured jobholders. As with job-separation rates, these re-employment ratios are 25-year averages.

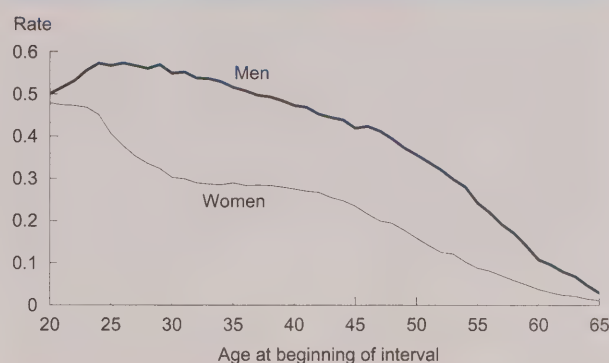
**Chart A: One-year job separation rates were similar from age 30 to 60.**



Source: Labour Force Survey, 1976-2001

The chances of being re-employed decline steeply from about age 25 and continue steadily downward thereafter (Chart B). Older workers experienced rates of job separation similar to those of much younger workers, and their separations were more often involuntary than not. Older workers seem to differ from younger workers more by their lower rate of re-employment than by their decision to retire.

**Chart B: One-year re-employment rates declined steadily after age 25.**



Source: Labour Force Survey, 1976-2001

### Retirement in perspective

Some economists have expressed concern about the effect inducements to early retirement in the form of generous pension entitlements may have on the employment decisions of older workers (Blöndal and Scarpetta 1998). Longer life expectancy coupled with ever-earlier retirement is seen as threatening the actuarial soundness of defined-benefit pension plans. With longer lives but shorter careers, retirees draw benefits for a longer time while contributing to the plan for a shorter time.

Job changes at career-end suggest that barriers or disincentives to re-employment for older workers should also be of concern. Among the reasons for job separation, only retirement seems to express an intention to withdraw from the labour market. And, since only a bare majority of men and a minority of women explicitly retired, many older workers seem to be interested in continued employment.

## Cohort incidence rates

The simplest way of calculating the average cumulative number of job separation and acquisition events within a cohort would be to directly track the number of events through time. In the case of the cohorts studied here, this would involve stepping through historical LFS files to count events that occurred to 50 year-olds in 1976-1979, to 51 year-olds in 1977-1980, and so on up to age 65. The final step would be to divide the cumulative total of events by the cohort size at the outset (that is, by the initial number of 50 year-olds).

This approach has its pitfalls. Official population estimates show that the cohort aged 50 in 1976-1979, resident in Canada, grew by 6.6% due to immigration before its 65th birthday, but also declined by about 1.3% due to emigration, and about 13.7% due to mortality. Thus, the cohort tracked in the LFS files is a moving target. It is therefore preferable to use demographic techniques that have been developed to estimate the cumulative mean number of events occurring in a specified population over time. Examples include lifetime births per woman or average car repair claims in a warranty period, as well as labour market events (Borgan and Hoem 1988; Lawless 1995). These techniques accommodate data from a population open to

migration. In addition, the techniques allow the use of cohort mortality data to improve the estimates and are robust to misstatements of age. This would affect direct counts of events.

The demographic approach requires three steps to estimate the incidence of job separation: At each cohort age and for each specified type of event, estimate the number of events per cohort member. Then, for each target age, multiply the conditional incidence rates by the corresponding probability of surviving from the initial age to the target age. Finally, cumulate the mortality-adjusted incidence rates over the age range. To obtain the age-specific incidence of job acquisition, the first estimation was for age-specific probabilities of remaining jobless for 12 months following a job separation of each type. Then the job acquisition incidence was estimated multiplying by each mortality-adjusted job separation incidence and by the corresponding probability of acquiring a job within 12 months (that is, the complement of the probability of remaining jobless for 12 months). These mortality-adjusted job acquisition incidences were then also cumulated over the age range.

## Note

1 Older workers typically had one-year job separation rates as high as those of much younger workers. A similar observation can be made focusing exclusively on involuntary separations. A study using administrative data showed that rates of permanent layoff between 1978 and 1994 were similar among age groups (Statistics Canada 1998). For example, the 17-year average annual permanent layoff rate was 6.3% for workers aged 55 to 64, and 6.4% for those aged 35 to 44.

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# Profiling RRSP contributors

*Boris Palameta*

**M**AJOR CHANGES to the Income Tax Act in 1990 allowed Canadians to increase their participation in registered retirement savings plans (RRSPs). Starting in 1991, eligible taxpayers were permitted to contribute more money to an RRSP during a given year and to carry unused 'room' forward to subsequent years. As a result, more people became eligible to contribute to RRSPs, and to contribute in greater amounts. Still, fewer than half of eligible Canadians make contributions. Increases in participation rates and contribution amounts have been documented for both individuals and families (Akyeampong 2000; Statistics Canada 2001a; Statistics Canada 2001b). However, relatively few determinants of RRSP participation have been established.

What makes one person more likely than another to contribute to an RRSP? Income has frequently been cited as the most important factor; however, when income is held constant, other factors emerge, including sex, age, and membership in an employer-sponsored pension plan (Palameta 2001). A host of other factors have yet to be investigated—for example, family variables, such as number of children and spousal income. A person with no children and a high-income spouse has a greater capacity to contribute to an RRSP than a person with the same income, several children, and a low-income spouse.

Incentives to contribute are less easy to predict. For instance, it is not clear whether investing outside registered plans makes a person more or less likely to contribute. On one hand, some people may consider RRSPs as alternatives to other savings vehicles and invest in only one or the other. On the other hand, people with a general propensity to save may see RRSPs as an added savings opportunity, without having to forgo other investments.

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This article looks at some of the personal and family characteristics associated with RRSP participation using 1998 tax data from the T1 Family File (see *Data source and definitions*). Individuals with RRSP room were

## Data source and definitions

This analysis is based on a 2% sample of families from the 1998 **T1 Family File** (T1FF). The T1FF is derived from information reported on the T1 General Income Tax Return. Linkages are established between husbands, wives and children. The T1FF has been available since 1982.

**Pension adjustment (PA):** For taxpayers whose employer provides a company pension plan, a PA is calculated according to a formula prescribed by the Canada Customs and Revenue Agency. The PA varies according to the amount contributed to the pension plan by the employer and the employee. The PA must be deducted from RRSP room. The PA deduction allows people without an employer-sponsored pension plan to make higher RRSP contributions than people with the same income whose employer provides a pension plan. For a limited number of high-earning employees, the PA is high enough to wipe out their RRSP room entirely. These individuals are excluded from the study.

**RRSP contribution:** a normal contribution is one made within the limit set by the taxpayer's current RRSP room. In rare cases, such as some retiring allowance rollovers, taxpayers are permitted to make contributions that exceed their current RRSP room. However, rollovers are gradually being phased out, and most people with rollovers also make normal contributions. In 1998, less than 1% of RRSP contributors had rollovers only.

**RRSP room:** the maximum RRSP contribution that can be deducted from income (for income tax purposes). RRSP room increases with earned income, including employment and self-employment income, business and rental income, and disability payments (minus employment expenses such as union dues, and business and rental losses). The maximum allowable annual new room is either a dollar amount or 18% of earned income, whichever is lower. In 1998, the dollar amount was \$13,500. For those with an employer-sponsored pension plan, new room is reduced by the amount of the pension adjustment. Since 1991, any unused room can be carried over for use in subsequent years.

divided into three groups, based on presence of a spouse and whether or not the spouse also had RRSP room (see *Groups and variables*). Personal characteristics included income, sex, age, membership in an employer-sponsored pension plan, self-employment, and participation in non-registered savings and investment vehicles. Family characteristics included income disparity between spouses, spousal RRSP participation, type of marriage, number of dependent children, and presence of low- or high-income children 18 and over in the household.

Group 1 was evenly split between men and women (Table 1). The majority were from dual-earner families, and 42% had spouses in the same tax bracket. The second group was composed mostly of men. They had the highest incomes, ages, and number of children, and were also the most likely to be savers

and investors. Most were sole earners in their families, and hence a majority (65%) had spouses in lower tax brackets. The majority of individuals in the third group were women. They were the youngest, and had the lowest incomes and the fewest children.

To see how different variables influence a person's likelihood of RRSP participation, a reference person with a specific set of characteristics was chosen. Changes in participation were calculated in comparison with the reference person. For example, an increase in income from \$35,000 to \$55,000 was associated with a 21 percentage-point increase in the likelihood of participation, everything else being equal (Chart A). Having a spouse in a higher tax bracket was associated with a 3 percentage-point drop in the likelihood of participation. Only statistically significant results are shown.

## Groups and variables

The analysis was restricted to living taxfilers aged 25 to 64 with RRSP room. In families where both spouses met the eligibility criteria, one was selected at random.<sup>1</sup> Selected individuals were placed into one of three groups for analysis: **1:** Spouse has RRSP room. **2:** Spouse has no RRSP room. **3:** Unattached individuals and single parents.

The three groups were analyzed separately because decisions to contribute were likely based on different criteria. For instance, spousal characteristics are likely to influence a married person's decision, but obviously have no bearing on a single person's decision.

For each of the three groups, individual RRSP participation was modelled as a function of:

**Income:** the total before-tax income<sup>2</sup> as reported on the T1 general form. This includes income from all sources, minus losses from rental property and self-employment.

**Income disparity**<sup>3</sup>: the selected individual's tax bracket, subtracted from the spouse's tax bracket. Tax brackets were defined as:

**0** Taxable income = \$0

**1** Taxable income = \$1 to \$29,590

**2** Taxable income = \$29,591 to \$59,180

**3** Taxable income = \$59,181 and above

Income disparity ranges from -3 (spouse 3 tax brackets below) to +3 (spouse 3 tax brackets above). This variable was not used in Group 3.

**Age and sex** of the selected individual.

**Self-employment:** no wage or salary income, and more than 50% of total income from self-employment.<sup>4</sup>

**PA:** A pension adjustment (PA) was taken to indicate an employer-sponsored pension plan.

**Saver:** Interest and investment income, but no dividends from taxable Canadian corporations.

**Investor:** Dividends from taxable Canadian corporations.

**Contributing spouse:** This variable is only used in Group 1.

**Marriage type:** Legal or common-law. This variable is not used in Group 3.

**Number of children:** All children residing in the household.

**Adult child with income less than \$10,000:** Child 18 and over with total before-tax income less than \$10,000 in the household.

**Adult child with income over \$30,000:** Child 18 and over with total before-tax income over \$30,000 in the household.

**Logistic regression** was used to examine the determinants of RRSP contribution. Within each of the three groups, in addition to models being run for the general population, separate models were run for men and women, and for people in different income brackets, to identify trends specific to these groups. Logistic regression estimates the probability that a particular outcome—in this study an RRSP contribution—will occur as a function of several explanatory variables. The association between each explanatory variable and the probability of contributing is examined while holding all other variables constant. In other words, the probability of contributing can be compared between individuals identical in every respect but one. For instance, a comparison can be made between men and women of the same age, with the same income, same number of children, etc. A Chi-Square statistic is computed for each explanatory variable to determine whether a change in the variable is associated with a significant change in the probability of contributing. Full results are available from the author.



**Table 1: Profiles of individuals in the three groups**

	Group 1	Group 2	Group 3
	Spouse has RRSP room	Spouse has no RRSP room	Unattached individuals and single parents
Sample size	87,219	8,503	64,624
Mean income (\$)	35,700	41,400	30,100
Difference in spousal tax bracket	0.0	-0.9	...
Age (mean)	42.4	45.9	41.5
Number of children (mean)	1.3	1.5	0.4
		%	
Men	50.2	77.0	46.2
Self-employed	6.9	5.7	4.3
Pension adjustment	34.9	32.1	29.8
Saver	21.7	22.5	17.1
Investor	12.5	15.2	9.2
Contributing spouse	43.8	...	...
Common-law marriage	15.7	12.5	...
Adult child with income < \$10,000	13.5	16.2	5.1
Adult child with income ≥ \$30,000	2.0	2.1	0.7

Source: T1 Family File, 1998

RRSP, their combined tax saving would be more if the higher-income spouse contributed \$5,000 (\$2,500 to their own plan, \$2,500 to the spouse's plan) than if each spouse contributed \$2,500.

On the other hand, higher-income spouses with no room cannot make a contribution to reduce their own tax burden. However, they can increase the lower-income spouse's ability to make a contribution. Indeed, having a higher-income spouse with no RRSP room increased an individual's likelihood of contributing.

### Age

Everything else being equal, younger people were more likely than older people to contribute in all three groups. The effect was

## The influence of ...

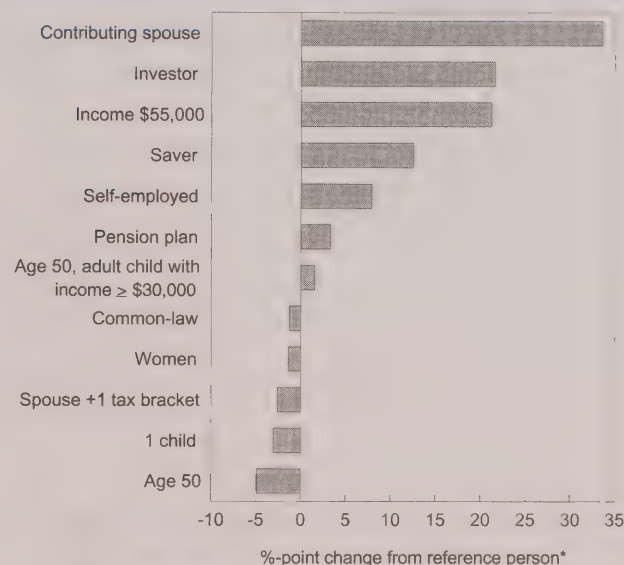
### Income

Not surprisingly, high income was associated with high likelihood of RRSP participation in all three groups. High income provides not only the means to contribute, but also the incentive, since those with high income bear the heaviest tax burdens. Data showing how RRSP participation rates rise with income have been published several times (Akyeampong 2000; Palameta 2001; Statistics Canada 2001b).

### A higher-income spouse

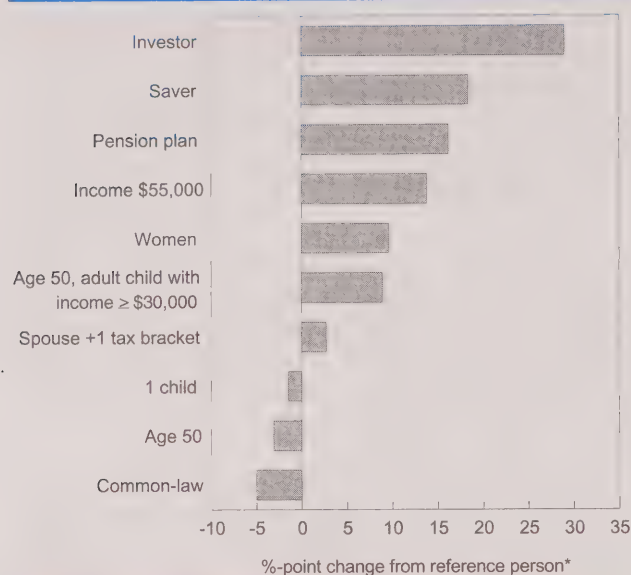
Having a spouse in a higher tax bracket decreased one's likelihood of contributing in the first group (Chart A), but increased it in the second group (Chart B).

At a given level of individual income, having a higher-income spouse means higher household income, and therefore greater ability to spend on RRSPs. Yet, having a higher-income spouse with RRSP room actually reduced an individual's likelihood of contributing. Why so? Perhaps when both spouses have room, the priority is to use up the higher-income spouse's room, thus reducing the heavier tax burden first. For example, if a couple decided to contribute \$2,500 to each spouse's

**Chart A: Likelihood of contributing, group 1—spouse has RRSP room**

Source: T1 Family File, 1998

\* The reference person is a 30-year-old, legally married man with an income of \$35,000, a spouse in the same tax bracket, no children, and no pension. He is not self-employed, and is not a saver or investor.

**Chart B: Likelihood of contributing, group 2—spouse has no RRSP room**

Source: T1 Family File, 1998

\* The reference person is a 30-year-old man with an income of \$35,000, no children, and no pension. He is not self-employed, and is not a saver or investor.

most pronounced among single people; from age 30 to 50, the likelihood of contributing dropped by almost 10 percentage points.

These results largely confirm previous findings showing that except in the lowest income brackets, persons aged 25 to 34 have the highest likelihood of contributing (Palameta 2001). Among single persons, younger people were significantly more likely to contribute in all income brackets.<sup>5</sup> Among people in the first group, the age effect was not significant for income less than \$20,000. In all income brackets above \$20,000, younger people were more likely to contribute.<sup>6</sup>

### Sex

Single women and women whose husbands had no RRSP room were more likely to contribute than their male counterparts.

When both spouses had RRSP room, husbands were slightly more likely than wives to contribute. It may be that instead of each spouse making a separate contri-

bution, the spouse with the higher income—usually the husband—sometimes made contributions to both plans. If spousal contributions are made mainly by husbands, then the number of wives who have RRSPs may substantially exceed the number who make contributions.

### Self-employment

Single self-employed persons and self-employed persons whose spouses had room were more likely to contribute than their employed counterparts, although the difference was not significant among those whose spouses had no room.

Why were self-employed persons more likely to contribute? The answer must be more than lack of a pension plan since the comparison groups in the charts were employees without pensions. Since self-employed workers tend to have more year-to-year income variability than employees, some may be using RRSPs as an income-averaging device. In good years, contributions serve to reduce tax burden, while in lean years withdrawals may be used to supplement income with a relatively light tax penalty. This hypothesis could be tested by examining whether the self-employed are also more likely to make RRSP withdrawals.

### Private pensions

Those with employer-sponsored pension plans were more likely to contribute in all three groups. However, previous findings show that in higher-income brackets, people without pensions participate at higher rates (Palameta 2001). When the samples in this study were split according to income bracket, similar results emerged. Among single people, those with pensions were more likely to contribute only in income brackets below \$20,000.<sup>7</sup> Those without pensions were more likely to contribute in the \$40,000 to \$59,999 bracket, as well as in the \$80,000-and-over bracket.

In the first group, those with pensions were again more likely to contribute in income brackets below \$20,000, while those without pensions were more likely to contribute in income brackets above \$30,000.<sup>6</sup>

### Savings and investments

People who reported interest and investment income (savers) were more likely to contribute than people who reported no such income. Also, investors (people who report dividends from taxable Canadian corporations) had a higher probability of participation than non-investors. This effect is particularly striking.



In all three groups, an investor with an income of \$35,000 was more likely to contribute than a non-investor with an income of \$55,000.

These results support the theory that retirement savings plans are supplements rather than alternatives to other savings vehicles. People investing outside registered plans are also likely to participate in RRSPs.

### A contributing spouse

An individual whose spouse had room was far more likely to contribute if the spouse also contributed—in fact, having a contributing spouse doubled a person's probability of participating (Chart A). However, decisions to contribute may depend on the income discrepancy between the two spouses. Couples may tend to behave as a single unit (both contribute, or neither contributes) when income discrepancy is low. However, as the discrepancy increases, the higher-income person may be more likely to make a spousal contribution, and the lower-income person more unlikely to contribute. Indeed, mean income discrepancy was close to zero in cases where both or neither contributed. Mean income discrepancy was 0.7 tax brackets when only one spouse contributed.

### Marriage

Everything else being equal, people in a legal marriage were more likely to contribute than those in a common-law relationship. However, patterns of contribution differed between men and women.

When both spouses had room, men in legal marriages were more likely to contribute than men in common-law relationships. The pattern was reversed for women.

Among wives whose husbands did not have room, however, legal marriage was associated with a greater likelihood of contributing. Husbands whose wives did not have room also tended to contribute with greater likelihood in legal marriages, although the trend was not statistically significant.

### Number of children

In all three groups, each additional child lowered the likelihood of contributing, especially for women.

When both spouses had room, having a child reduced a person's likelihood of contributing in all three groups (Charts A, B, and C). However, under separate groups for men and women, the effect was much more pronounced for women.

Whether a woman was married or single, having a child reduced her likelihood of contributing to a significantly greater extent than it did for a man (Table 2).

### Children 18 and over in the home

The presence of adult children in the household tended to increase a person's likelihood of contributing, especially if the children had relatively high incomes (\$30,000 or more). In all three groups, a 50 year-old with an adult child making \$30,000 or more and living in the household was more likely to contribute than a 30 year-old with no children—even though younger people were generally more likely to contribute. Again, the effect on women was more pronounced.

Relatively low-income (under \$10,000) adult children had a significant effect only in the third group (Chart C). At any given age, a single person with such a child in the household was more likely to contribute than a single person with no children. However, considering men and women separately, married women were affected by the presence of a relatively low-income adult child, while married men were not.

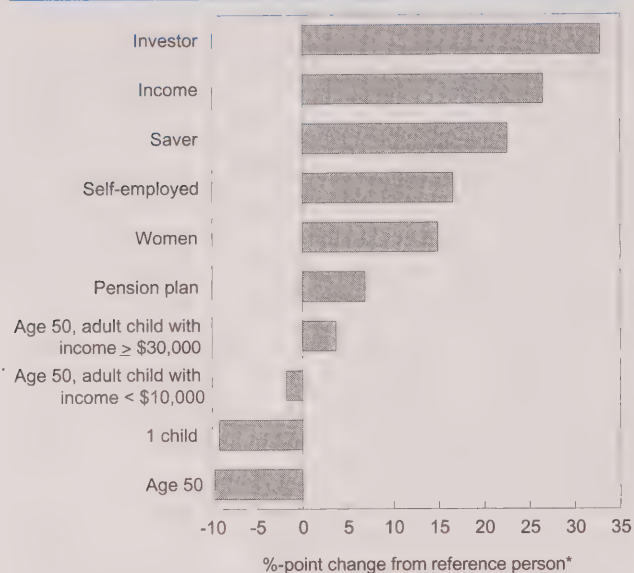
Adult children may increase their parents' capacity to contribute by providing extra income or by helping with unpaid work. The latter may explain why adult children tended to affect married women more than married men.

**Table 2: Effects of various factors on the probability of making an RRSP contribution**

	Men	Women
	% -point change	
<b>Presence of a child</b>		
Spouse has RRSP room	-1.0	-5.2
Spouse has no RRSP room	n.s.	-8.8
Single	-4.7	-11.9
<b>Adult child with income ≥ \$30,000</b>		
Spouse has RRSP room	+4.0	+9.6
Spouse has no RRSP room	+10.3	+18.1
Single	n.s.	+18.3
<b>Adult child with income &lt; \$10,000</b>		
Spouse has RRSP room	n.s.	+3.6
Spouse has no RRSP room	n.s.	+9.9
Single	+5.1	+8.9

Source: T1 Family File, 1998

n.s. = not statistically significant.

**Chart C: Likelihood of contributing, group 3—unattached individuals and single parents**

Source: T1 Family File, 1998

\* The reference person is a 30-year-old, legally married man with an income of \$35,000, a spouse in the same tax bracket who does not contribute to an RRSP, no children, and no pension. He is not self-employed, and is not a saver or investor.

## Summary

Factors particularly strongly associated with RRSP contribution include a contributing spouse and investments outside registered plans. This is true of both men and women at every level of income.

Personal income is another universal predictor of RRSP participation, but having a higher-income spouse was not always associated with a greater likelihood of contribution. In fact, both men and women were less likely to contribute if they had a higher-income spouse with RRSP room.

At most levels of income, younger people, whether married or single, were more likely to contribute than their older counterparts.

Women were generally more likely to contribute than men, except among married couples where both spouses had RRSP room. People legally married were generally more likely to contribute than people in common-law relationships—with the exception of women whose husbands had RRSP room.

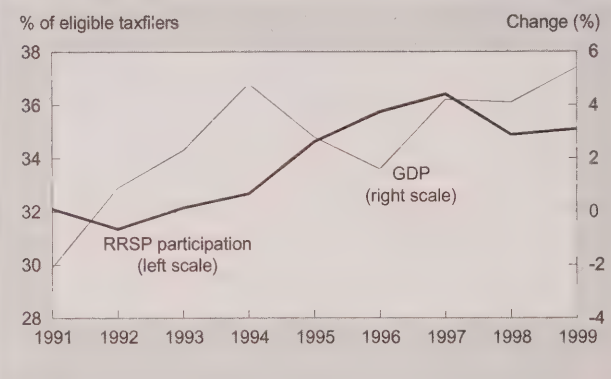
## Determinants of RRSP participation over time

The determinants of RRSP participation identified in this paper are likely to be enduring traits. Nonetheless, major legislative changes or changes in the economic cycle may affect certain groups' relative likelihood of participation. For example, a period of economic decline may affect people with children more than people without children. Because women's decisions to contribute are tied to the presence of children more so than men's, the result may be a relative decline in women's participation rates. It is difficult to test this hypothesis because the period since the last major legislative change in 1991 has been one of steady economic growth (Chart).

RRSP participation rates increased steadily throughout the 1990s until 1998, the year from which the data in this paper are taken. The decline in participation rate coincides with the introduction of the Canada Education Savings Grant for registered education savings plans (RESPs). From 1998 on, RESP participants could receive up to \$400 per child per year. It is possible that RRSP participation declined because some people switched to RESPs. If so, one would expect the RRSP participation rates of people with children—especially young people with children—to have declined the most steeply.

Characteristics of RRSP contributors may also change over time as people age, and as some enter and others leave the population of eligible taxpayers.

## The 1990s saw economic growth and increased RRSP participation.



Having children was associated with a decreased likelihood of participation, particularly among women. However, women's likelihood of contributing increased if they had an adult child in the home, regardless of the child's income.



Among employees, having a pension plan was associated with higher likelihood of participation in low-income brackets. However, at high incomes, those without pension plans were more likely to contribute. Self-employed persons were generally more likely to contribute than their employed counterparts.

Several important factors were not available from the data source and remain unexamined—notably education, wealth (net worth), and contributions to other registered plans such as RESPs.

### Acknowledgements

The author wishes to thank Hubert Frenken, formerly of the Labour and Household Surveys Analysis Division, and Professor Robert L. Brown of the Department of Statistics and Actuarial Science, University of Waterloo, for their comments on an earlier version of this paper.

### Perspectives

#### ■ Notes

1 If both spouses were 25 to 64 with RRSP room, one was dropped from the analysis to maintain independent observations.

2 Although the ability to contribute to an RRSP is a function of after-tax income, before-tax income offers the advantage of capturing the *incentive* to contribute, since RRSP contributions are deducted from before-tax income and thus serve to reduce individual tax burden.

3 Income disparity was used instead of spousal income because the incomes of spouses are highly correlated. Including two highly correlated variables in a group may lead to collinearity problems.

4 The Canada Customs and Revenue Agency does not make the distinction between incorporated self-employment and paid employment. Hence, in this study, incorporated self-employed taxfilers are considered to be employees, and only those unincorporated are defined as self-employed.

5 The income brackets were: under \$10,000; \$10,000 to \$19,999; \$20,000 to \$29,999; \$30,000 to \$39,999; \$40,000 to \$59,999; \$60,000 to \$79,999; and \$80,000 and over.

6 Individuals in the second group were not divided according to income bracket because the sub-samples would have been too small to obtain accurate results.

7 The self-employed cannot have employer-sponsored pensions; hence, the groups compared are employees with pensions and employees without pensions.

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# 2000 income: an overview

*Pina La Novara, Heather Lathe, Gaétan Garneau and David Pringle*

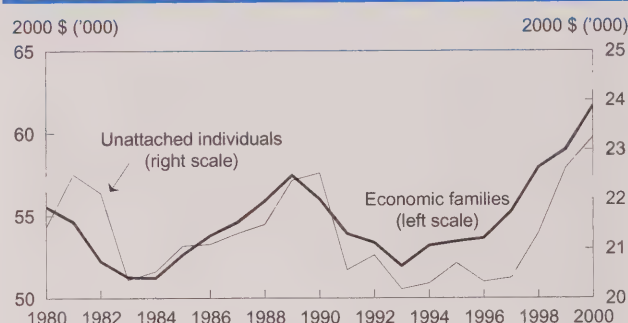
## Market income continued to grow

Family incomes increased in 2000, mainly because of a vibrant labour market. The national unemployment rate was 6.8%, the lowest since 1976 (7.0%); real GDP per capita grew 3.7%; and the employment rate was 61.4%, up 0.8 percentage points from 1999.

Almost all provinces experienced employment growth in 2000. The only exception was Newfoundland and Labrador where employment was virtually unchanged. Prince Edward Island (5.2%), Ontario (3.2%), and Nova Scotia (2.7%) had job creation rates above the national average. Most of the new jobs were created in Ontario (49%), Quebec (21%), and British Columbia (11%).

The average market income for families of two or more was \$61,600 in 2000, up 4.5% from 1999 after inflation. This was the seventh consecutive year of growth, marking an increase of 19% since 1993 when income was at a 10-year low of \$51,900. Market income for unattached individuals was \$23,300, an increase of 2.7% from 1999.

**Chart A: Average market income**



Sources: Survey of Consumer Finances, 1980-1995; Survey of Labour and Income Dynamics, 1996-2000

While all main family types experienced an increase in market income between 1999 and 2000, female lone-parent families had the largest gain (15%)—47% between 1993 and 2000. This resulted from their increased labour force participation—from 48% in 1993 to 63% in 2000. At the same time, their unemployment rate declined from 20% to 11%.

## Data sources and definitions

The longitudinal **Survey of Labour and Income Dynamics** began in 1993. The **Survey of Consumer Finances** was an annual supplement to the Labour Force Survey.

**Market income** (income before taxes and transfers): total earnings (from paid employment or net self-employment), investment income, private pension income, and 'other income.' It excludes government transfers.

**Government transfers:** direct payments to individuals and families by governments: Old Age Security, Guaranteed Income Supplement, Spouse's Allowance, C/QPP, child tax benefits, Employment Insurance, Workers' Compensation, GST/HST credits, provincial/territorial refundable tax credits, social assistance payments, and other government payments.

**Total income:** income from all sources before federal and provincial taxes.

**After-tax income:** total income minus income taxes.

**Economic family:** two or more persons living together and related by blood, marriage, common law, or adoption.

**Low-income cutoff:** the level at which a family may be in straitened circumstances because it spends a greater proportion of its income on necessities than the average family of similar size. Specifically, it is defined as the income below which a family spends 20 percentage points more of its income than the average family on food, shelter and clothing. Cutoffs are defined for seven family and five community sizes.

**Low-income rate:** income of persons or families compared with the low-income cutoff.

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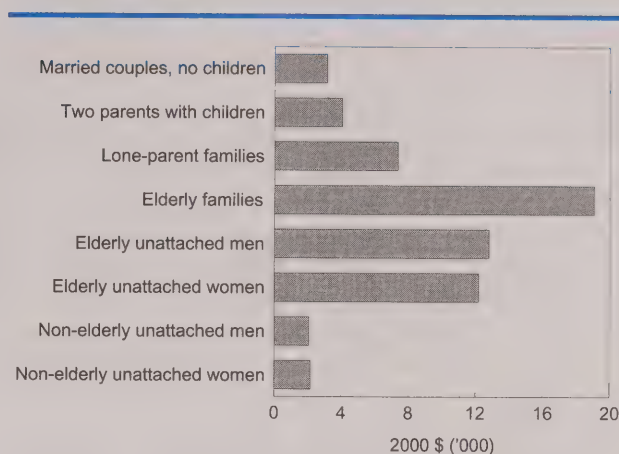


## Average government transfers declined

Average government transfers to families of two or more declined 3.3% in 2000 to \$6,700, largely because of continued growth in market income. (Most transfers are designed to supplement private income when it is low and, in the absence of major program changes, tend to decline when the economy and labour market are strong.) Some, but not all, government transfers are needs-based, meaning that they are designed to supplement the incomes of lower-income families and individuals. This is evident in the distribution of transfers when the population is ranked from lowest to highest after-tax income. The share of transfers paid to families in the lowest after-tax income quintile is typically the highest—31% in 2000. The share to the second-lowest quintile was the second highest, at 26%, and so on for every quintile, with the highest income quintile families receiving 12%.

The share of government transfers going to the lowest income quintile families increased for four consecutive years, from 28% in 1996 to 31% in 2000. The share of transfers to the second-lowest quintile also increased slightly during the same period, while shares for the three higher quintiles declined.

**Chart B: Average government transfers by family type**



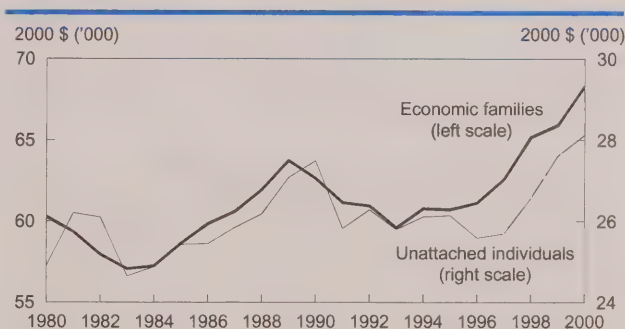
Source: Survey of Labour and Income Dynamics, 2000

At least some of the changes are likely related to increased benefits from government programs (for example, the National Child Benefit) rather than improved labour market conditions. Among recipients of child tax benefits, the amount received from federal and provincial sources rose from an average \$1,700 in 1996 to \$2,100 in 2000—an increase of about 21%.

## Total income

When all income sources were considered, Canadian families received an estimated \$68,300 in average total income in 2000—an increase of 3.7% from 1999, and 14.6% since the 1993 low. Average total income for unattached individuals was \$28,100—an increase of 1.9% from 1999, and 9.0% since 1993.

**Chart C: Average total income**



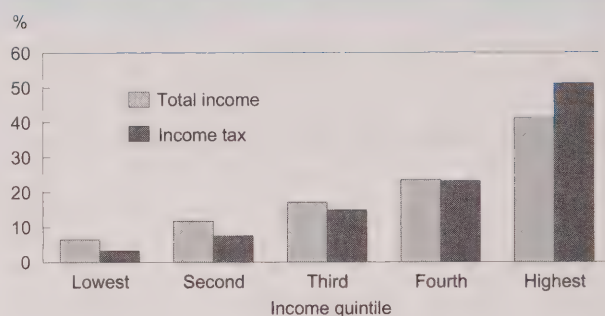
Sources: Survey of Consumer Finances, 1980-1995; Survey of Labour and Income Dynamics, 1996-2000

## Income taxes increased

In 2000, Canadian families paid an average \$13,600 in income taxes, up \$840 or 6.5% from 1999 (after adjusting for inflation). Unattached individuals paid \$5,200, up 1.2%.

In 2000, families in the highest after-tax income quintile paid \$34,700 in income taxes, or just over half (51%) of total income tax. Their shares of aggregate market income and total income, however, were 44% and 41% respectively. Families in the bottom quintile paid an average \$2,200. At 3.3% of the total income tax collected from families, this amount was not much less than their 3.8% share of aggregate market income, but approximately half of their share of total income (6.5%). This is because many government transfers, particularly those targeted at individuals or families with very low income, are non-taxable.

Chart D: Shares of total income and income tax



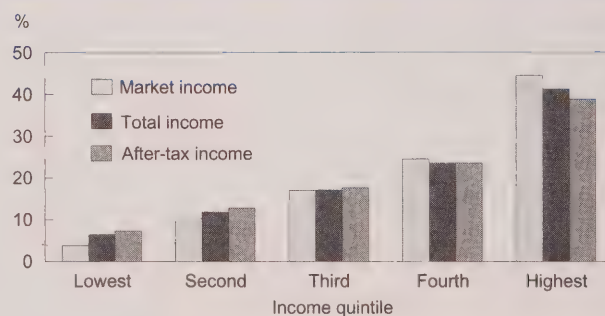
Source: Survey of Labour and Income Dynamics, 2000

## Fifth consecutive rise for after-tax income

After-tax income continued its upward trend for the fifth year in a row. After adjusting for inflation, average after-tax income for families of two or more rose to \$54,700 in 2000, up 3.0% from 1999. This increase followed the same trend as market income and total income, which rose by 4.5% and 3.7% respectively. Average after-tax income of unattached individuals was \$23,000 in 2000, up 2.0%.

Female lone-parent families recorded the largest percentage increase in after-tax income. In 2000, their average after-tax income was \$29,100, up 8.4% from 1999. Families in which the main income earner was under 65 received 3.4% or \$1,900 more. However, for the first time since 1996, the average after-tax income for elderly families decreased. At \$39,200, it was 1.0% lower than in 1999.

Chart E: Income shares after transfers and taxes



Source: Survey of Labour and Income Dynamics, 2000



## Government transfers and taxes reduced disparities

In 2000, the average family received \$6,700 in transfers and paid \$13,600 in taxes, for a net contribution of \$6,900, or 11% of their income before transfers and taxes. In other words, families retained 89% of their market income. At 80%, the proportion of after-tax income to market income was the smallest for two-earner, married couples without children. At the other end of the spectrum, the ratios for families whose main income earner was a senior or a female lone parent were 143% and 119% respectively. In other words, these families received more in transfers than they paid in taxes.

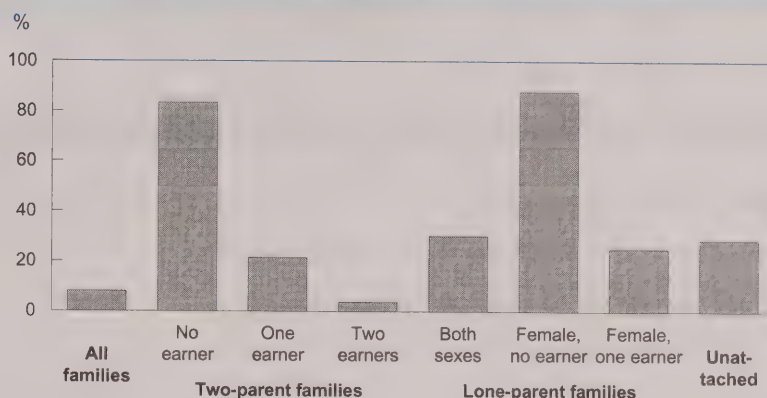
Personal income taxes and government transfers reduced the disparities in income between the various types of families. While the average market income for elderly families was 41% that of non-elderly families, the ratio climbed to 69% for after-tax income. This last ratio has been dropping since 1995 when it was at 81%. The market income of female lone-parent families was 33% that of two-parent families with children, but it increased to 48% after transfers and taxes.

Similarly, transfers and income taxes reduced differences in average income between dual-earner and single-earner families with children. In 2000, the market income of families with one earner was 65% that of families with two earners. After taxes and transfers, the ratio rose to 71%.

## Fewer families in low income

The after-tax low-income rate for families declined from 8.6% in 1999 to 7.9% in 2000, the lowest

Chart F: Families in low income



Source: Survey of Labour and Income Dynamics, 2000

since 1989 (7.5%). In absolute terms, an estimated 666,000 families were in low income. This was the fourth consecutive year of decline in the low-income rate, reflecting the improving economic conditions in the second half of the decade.

Although the low-income rate dropped from 1999 to 2000, the overall financial situation of families below the low-income cutoff remained about the same. Families in low income would have needed an additional \$6,700 in after-tax dollars to reach the low-income cutoff. In relative terms, the gap was 30.7% of the low-income cutoff.

Lone-parent families showed a significant decrease in their low-income rate, from 34% in 1999 to 30% in 2000. Of the 531,000 female lone-parent families, 34% were in low income in 2000, down from 38% in 1999. Four of every five female lone-parent families had earnings in 2000. While the low-income rate of female lone-parent families with one earner was over three times the average for all families (25% versus 8%), they fared

much better than those without earnings; 88% of the latter experienced low income in 2000.

In 2000, 10.9% of all Canadians were living in low income (about 3.3 million persons), down 0.8 percentage points from 1999. After climbing throughout the early 1990s, the low-income rate peaked in 1996 at 14% before declining. About 868,000 children under 18 lived in low-income families in 2000, down from 940,000 in 1999. The proportion of children in low-income families has been falling since 1996, when it last peaked at 17% on an after-tax income basis. In 2000, the percentage of low-income children fell to 13%—among the lowest recorded over the past 20 years.

Just over half of the children in low-income families lived in two-parent families. However, at 8.5% in 2000, the low-income rate of children in these families was much lower than that of children living in female lone-parent families (38%).

# What's new?

## *Recent reports and studies*

### ■ JUST RELEASED

#### ■ *Reading performance of students*

The 2000 Programme for International Student Assessment showed that students in all provinces performed above the average score of 500 for member countries of the Organisation for Economic Co-operation and Development. The national average in Canada was 534. Internationally, scores ranged from 546 in Finland to 422 in Mexico.

Within Canada, however, students in urban schools recorded higher reading scores than their rural counterparts. The average score for urban students in reading literacy was 538, compared with 523 for rural students.

Urban students significantly outperformed those in rural schools in four provinces: Newfoundland and Labrador, Prince Edward Island, New Brunswick and Alberta. There was no difference in Nova Scotia and Manitoba, and the differences were not significant in the remaining provinces.

Rural students in Alberta, however, exceeded the national average and did better than urban students in some other provinces. For their part, urban students in Alberta scored far higher than the national average for urban schools.

The study found no major differences in the nature of schools in rural and urban communities that could explain the reading gap. As an example, school variables included principals' perceptions of how much student learning was affected by teacher shortages or by inadequate school facilities or instructional resources. In contrast, large differences were found in the characteristics of students' families and the communities themselves.

The parents of rural students tended to be less well-educated and less likely to be employed in professional occupations (such as doctors, lawyers, and bankers). These differences, however, do not explain the gap in performance between rural and urban students. When rural and urban students whose parents had the same level of education and occupation were compared, the reading gap still remained.

The gap between rural and urban reading performance was most strongly related to community differences associated with adult education levels and the nature of work in urban and rural communities.

Community characteristics most strongly related to the rural-urban reading difference were the educational attainment and nature of jobs held by students' parents, the proportion of adults with postsecondary education, and the proportion of workers whose jobs required university training.

In Alberta, for example, the difference between urban and rural students' reading scores was 21 points. When the individual family background of rural students was taken into account, the difference was still 17 points. When a combination of community variables were considered, the difference narrowed to only 5 points.

Although it is unlikely that these community variables directly cause lower student achievement, they are indicators of the broader environment in which students learn and look for support for their learning. Furthermore, these influential community differences are not reflected in schools where the environment is essentially the same for rural and urban students.

The research paper *Understanding the rural-urban reading gap* (81-595-MIE, no. 1, free) is now available on Statistics Canada's Web site ([www.statcan.ca](http://www.statcan.ca)). From the *Our products and services* page, under *Browse our Internet publications*, choose *Free*, then *Education*.



For more information, contact Client Services, Culture, Tourism and the Centre for Education Statistics, at (613) 951-7608 or 1 800 307-3382; fax: (613) 951-9040; [educationstats@statcan.ca](mailto:educationstats@statcan.ca).

## ■ *Profiling disability in Canada*

One in every seven Canadians aged 15 and over—an estimated 3.4 million people—reported some level of disability in 2001, according to a new report profiling people whose everyday activities are limited by a physical or psychological condition or by a health condition.

The disabilities ranged from milder limitations, such as a backache, to more severe ones, such as loss of mobility because of arthritis. Of the 3.4 million adults reporting disabilities, 1.1 million reported mild levels of disability, 855,000 reported moderate levels, and 1.4 million reported severe or very severe levels.

These 3.4 million individuals represented 14.6% of the adult population. In terms of level of severity, the disability rate in the adult population was 5.0% for mild disabilities, 3.6% for moderate disabilities, and 5.9% for severe and very severe disabilities.

In general, the disability rate was higher among women. About 1.9 million women aged 15 and over, or 15.7%, reported having a disability, compared with just over 1.5 million men (13.4%). The highest rates occurred in the age group 75 and over, where more than one-half of both men and women reported a disability.

The article “A profile of disability in Canada, 2001” (89-577-XIE, free), the data tables *A profile of disability in Canada, 2001* (89-579-XIE, free), and the report *A new approach to disability data: Changes between the 1991 Health and Activity Limitation Survey (HALS) and the 2001 Participation and Activity Limitation Survey (PALS)* (89-578-XIE, free) are available on Statistics Canada's Web site ([www.statcan.ca](http://www.statcan.ca)). From the *Our products and services* page, under *Browse our Internet publications*, choose *Free*, then *Health*.

For more information contact Renée Langlois at (613) 951-0878 or Catherine Allan at (613) 951-8658, Housing, Family and Social Statistics Division.

## ■ *Wage progression of less-skilled workers*

Less-skilled workers could substantially improve their prospects of earnings by staying longer in their job. If updating skills by acquiring more education is not

feasible, acquiring specific knowledge of the firm, as well as experience, is the next best thing.

This study, based on the 1993 to 1998 Survey of Labour and Income Dynamics, investigates wage growth among young, less-skilled workers. It compares the payoffs from, or returns to, two employment strategies: changing jobs every year or staying in a job for a number of years. The first strategy increases work experience, while the latter increases both experience and employment tenure.

‘Firm-specific human capital,’ or knowledge of a firm, may substitute for less-skilled workers’ lower ‘general human capital,’ or education. As a result, these workers may be substantially better off by staying in their jobs instead of changing frequently.

For both men and women, a payoff occurred for additional years in the current job. For example, staying in a job for five consecutive years resulted in an average hourly wage rate increase per year of 4.5% for a less-skilled man and about 4.0% for a less-skilled woman. These gains were only slightly less than those for skilled counterparts would receive.

Although it is sometimes argued that less-skilled workers are locked in dead-end jobs with stagnant wages, the study found that these workers made wage gains if they stayed with their current employer for a certain length of time. However, results are based on averages, and it is possible that at least some less-skilled workers may nevertheless be locked in such jobs.

The research paper *Wage progression of less skilled workers in Canada: Evidence from the SLID, 1993-1998* (11F0019MIE, no. 194, free) is available on Statistics Canada's Web site ([www.statcan.ca](http://www.statcan.ca)). From the *Our products and services* page, under *Browse our Internet publications*, choose *Free*, then *Social conditions*.

For more information contact René Morissette, Business and Labour Market Analysis Division, at (613) 951-3608.

## ■ *Immigrant self-employment*

Immigrants who arrived in Canada in the 1990s were far more likely to be self-employed than immigrants who arrived in the 1980s, according to a new study.

Although recent immigrants who were self-employed earned less than similar Canadian-born, self-employed workers, the gap did not increase throughout the 1980s and 1990s as much as it did for recent immigrants in paid jobs.

From 1981 to 1996, the proportion of recent immigrant workers who were self-employed almost doubled. In contrast, the proportion of Canadian-born workers who were self-employed rose only marginally over the same period.

Although an earnings gap existed between recent immigrant and Canadian self-employed workers, this gap did not increase from the early 1980s to mid-1990s. In contrast, the earnings of recent immigrant employees fell further behind the earnings of Canadian-born employees over the same period.

The self-employment rate rose throughout the 1980s and the 1990s. This was true for Canadian-born workers but especially for recent immigrant workers.

In 1981, about 8% of recent immigrant workers were self-employed. By 1996, this proportion had almost doubled to 14%. In contrast, the proportion of Canadian-born self-employed remained fairly steady over the same period. In 1981, about 13% were self-employed, compared with about 14% in 1996.

Although an earnings gap existed between recent immigrant and Canadian self-employed workers, this gap did not increase between 1980 and 1995. In contrast, the earnings of recent immigrant employees fell further behind the earnings of Canadian-born employees.

For example, self-employed recent immigrants earned about \$18,900 on average in 1985, compared with \$25,900 for Canadian-born self-employed workers, a 27% difference. In 1995, self-employed recent immigrants earned about \$16,500 on average, compared with \$23,000 for Canadian-born self-employed workers, a 28% difference.

In paid jobs, recent immigrants earned about \$19,400 on average in 1985, compared with \$26,500 for Canadian-born workers, a 27% difference. In 1995, recent immigrant employees earned about \$16,600 on average, compared with \$26,600 for Canadian-born employees, a 38% difference.

These earnings gaps between recent immigrants and Canadian-born workers held after accounting for differences in education, age, family composition, visible minority status, and geography.

The research paper *Do the falling earnings of immigrants apply to self-employed immigrants?* (11F0019MIE, no. 195, free) is available on Statistics Canada's Web site

([www.statcan.ca](http://www.statcan.ca)). From the *Products and services* page, under *Browse our Internet publications*, choose *Free*, then *Social conditions*.

For more information contact Marc Frenette, Business and Labour Market Analysis Division, at (613) 951-4228.

## ■ *Language, mobility and migration*

Canada is becoming more and more multilingual in the wake of growing numbers of immigrants whose mother tongue is neither English nor French, according to new data from the 2001 Census. Mother tongue is defined as the first language a person learned at home in childhood and still understood at the time of the census.

Canadians reported more than 100 languages in completing the census question on mother tongue. The list includes languages long associated with immigration to Canada: German, Italian, Ukrainian, Dutch, Polish, and so on. However, from 1996 to 2001, language groups from Asia and the Middle East again recorded the largest gains.

In 2001, almost 5,335,000 individuals, about one out of every six people, reported having a mother tongue other than English or French. This was up 12.5% from 1996, three times the growth rate of 4.0% for the population as a whole.

The census also reaffirmed the position of Chinese as Canada's third most common mother tongue. Almost 872,400 people reported Chinese as their mother tongue, up 17.9% from 1996. This language accounted for 2.9% of the total population of Canada, compared with 2.6% five years earlier.

Italian remained in fourth place, and German fifth, although the numbers declined. Punjabi moved into sixth, and Spanish slipped to seventh.

From 1996 to 2001, about 11,710,300 individuals aged 5 and over changed residence. While significant, the overall rate at which Canada's population moved during this five-year period declined to its lowest level in more than two decades. Movers represented 41.9% of the total population aged 5 and over in 2001, down from 43.3% in 1996 and down sharply from 46.7% in 1991.



Canadians who changed province or territory between 1996 and 2001 still headed west. However, instead of going all the way to the Pacific Ocean, they stopped at the Rocky Mountains. Alberta replaced British Columbia as the destination of choice.

By far, the largest net gain from migration was the 119,400 that occurred in the booming, oil-rich province of Alberta. Some 242,200 people moved into Alberta, and 122,800 moved out.

Much of the massive flow of migrants into Alberta was composed of young people. Individuals aged 15 to 29 represented 36% of the total in-flow into Alberta.

Detailed analysis of these new census data is presented in two online reports: *Profile of languages in Canada: English, French and many others* (96F0030XIE2001005, no. 5, free), and *Profile of the Canadian population by mobility status: A nation on the move* (96F0030XIE2001006, no. 6, free), both available on Statistics Canada's Web site ([www.statcan.ca](http://www.statcan.ca)). Both HTML documents are illustrated by numerous tables and charts.

For more information, contact Statistics Canada Advisory Services at 1-800-263-1136 or [infostats@statcan.ca](mailto:infostats@statcan.ca).

## ■ Household spending

Households in Canada spent an average of \$57,730 in 2001 on everything from food, shelter and clothing to recreation and travel, according to new estimates from the 2001 Survey of Household Spending.

This was up 3.4% from \$55,830 in 2000, slightly higher than the rate of inflation of 2.6% as measured by the consumer price index.

The proportion of the household budget allocated to the four largest spending categories remained largely unchanged. Personal taxes claimed an estimated 21% of the average household budget; shelter about 19%; transportation, 13%; and food, 11%.

Households spent an estimated average of \$10,980 on shelter in 2001, up from about \$10,500 in 2000. They also spent \$6,430 on food, up from \$6,220 in 2000.

The increase in spending on food was due mainly to higher spending on restaurant meals, which rose about 10% to \$1,430. Spending in restaurants, which include drive-ins, canteens, cafeterias and take-outs, accounted for almost one-quarter of all food spending. On average, each household spent about \$4,970 on food purchased from stores, up slightly from 2000.

In 2001, almost three-quarters of all households made payments to retirement and pension funds such as the Canada and Quebec Pension Plans, and other government and non-government funds. For these households, spending rose from an average of \$2,330 in 2000 to \$2,590 in 2001. Payments to registered retirement savings plans did not change significantly. In contrast, Employment Insurance premiums declined from \$1,050 in 2000 to an average of \$990 in 2001.

The one-fifth of households with the lowest incomes spent almost 50% of their budget on food and shelter in 2001, and only 3% on personal income taxes. In contrast, the one-fifth of households with the highest incomes allocated 24% of their budgets to food and shelter, and 30% to personal income taxes. The proportions for both groups were virtually unchanged from 2000.

The one-fifth of households with the lowest incomes had average annual spending of \$18,070 in 2001, compared with \$117,230 for the one-fifth of households with the highest incomes.

After adjusting for differences in household size, average spending per person was \$14,890 for the one-fifth of households with the lowest incomes, only one-quarter the level of \$60,720 for households with the highest incomes.

Households with the lowest income spent an estimated \$2,690 per person on food in 2001 on average, about one-half the level of \$5,160 spent by those with the highest incomes. Similarly, spending on shelter amounted to about \$4,680 per person for the households with the lowest incomes, and \$9,170 for those with the highest.

Two tables presenting summary-level household spending data are available free on Statistics Canada's Web site: *Canada and the provinces and selected metropolitan areas*. The table *Dwelling characteristics and household equipment* is also available.

A user guide (62F0026MIE, free) presenting information about survey methodology, concepts and data quality is available on Statistics Canada's Web site ([www.statcan.ca](http://www.statcan.ca)). From the *Products and services* page, under *Browse our Internet publications*, choose *Free*, then *Personal finance and household finance*. Ten detailed tables are available at \$125 per table. Of these 10 tables, five present detailed household spending data. Custom

tabulations are also available. A public-use microdata file is scheduled for release in May 2003 with a publication to follow in June 2003.

For more information contact Client Services, Income Statistics Division, at (613) 951-7355 or 1 888 297-7355; or [income@statcan.ca](mailto:income@statcan.ca).

### ■ *Immigrants in rural Canada*

According to a new study, Canada's rural regions have yet to benefit fully from the country's influx of immigrants—Canada's main source of population growth for a number of years. For rural communities watching young people leave for the cities in growing numbers, attracting immigrants is an important strategy for development.

However, the study, which analysed data from the 1996 Census of Population, showed that rural regions have been attracting a smaller share of immigrants at a time when they increasingly require people to sustain their population growth.

In 1996, immigrants represented only 6% of the population in predominantly rural regions, compared with 27% in predominantly urban regions.

The pattern is more stark among immigrants who arrived after 1981. In 1996, they made up less than 2% of the predominantly rural population, but more than 12% of the predominantly urban population.

The challenge for rural communities is to attract and also to keep immigrants, according to the study, titled "Immigrants in rural Canada," part of the *Rural and Small Town Canada Analysis Bulletin* series.

Of all immigrants who arrived during the 1980s, 66% lived in Toronto, Vancouver or Montréal in 1991. In contrast, 58% of immigrants who arrived in the 1970s were residing in these three centres in 1981.

Recent immigrants (those who arrived after 1981) residing in rural regions had a different socio-economic profile from immigrants who arrived before 1981. Those who arrived before 1981 had a higher employment rate than the Canadian-born population, were more likely to work in professional service occupations, and had higher employment incomes. In contrast, those who arrived after 1981 had a lower employment rate, were more likely to work in sales occupations, and had lower employment incomes.

Socio-economic differences between visible-minority immigrants (the majority of new immigrants) and other population groups were even more pronounced in the predominantly rural regions. Among visible-minority immigrants, a higher proportion lacked a high school diploma, a higher proportion had a university degree, the employment rate and incomes were lower, and there was a higher likelihood of having occupations in sales and services.

The *Rural and Small Town Canada Analysis Bulletin*, Vol. 4, no. 2, titled "Immigrants in rural Canada," 1961-1996 (21-006-XIE, free) is available on Statistics Canada's Web site ([www.statcan.ca](http://www.statcan.ca)). From the *Products and services* page, under *Browse our Internet publications*, choose *Free*, then *Agriculture*.

For more information contact Roland Beshiri, Agriculture Division, at (613) 951-6506, [roland.beshiri@statcan.ca](mailto:roland.beshiri@statcan.ca); or Ray D. Bollman at (306) 379-4431 or [ray.bollman@statcan.ca](mailto:ray.bollman@statcan.ca).

### ■ *Productivity and prosperity*

The improvement of the labour market situation during the late 1990s was a major factor in boosting average real incomes for Canadians. The 1990s presented the longest period of continuous positive growth in multifactor productivity during the last 20 years.

This surge picked up during the mid-1990s and peaked in 2000. As a result, average real income from 1995 to 2000 grew at a substantial average of 2.8% a year, as measured by gross domestic product (GDP) per capita. When real income grows at this pace in a sustained way, the standard of living doubles every 25 years.

The surge of the post-1995 period partly overcame a poor performance earlier in the decade. During the 1990s as a whole, real income advanced at an annual average rate of 1.4%, down from 1.9% during the 1980s. This slowdown was a reflection of slower growth in labour utilization (hours worked per capita). In the 1980s, labour utilization increased an average of 0.8% a year, whereas during the 1990s, it increased an average of only 0.1%.

In contrast, growth in labour productivity remained virtually unchanged between these two periods. Productivity growth proceeded at much the same pace in the 1990s as it did in the 1980s. The overall decline



in growth in GDP per capita in the early 1990s then is the result not of the productivity performance, but of developments and choices made in the Canadian labour market.

The late 1990s brought a major turnaround in Canada's prosperity. Between the early 1990s and the late 1990s, the rate of growth in labour productivity increased from an annual average of 1.2% to 1.8%, largely a result of the revival in multifactor productivity. Growth in multifactor productivity, a comprehensive measure of production efficiency, is measured by the increase in output minus the growth of combined inputs (labour and capital). It is an important determinant of the standard of living.

The same surge in productivity occurred in the United States. Owing to a surge in the intensity of information technology capital and growth in multifactor productivity, the rate of growth in labour productivity in the United States doubled from 1.4% to 2.8% between these two periods.

The revival in the growth of multifactor productivity in Canada during the late 1990s was not confined to only one sector. A strong productivity revival occurred after 1995 in major sectors of the economy such as retail trade; communications and other utilities; and finance, insurance and real estate.

Parallel to the gains, two major sectors—manufacturing and wholesale—experienced a deceleration in productivity in the late 1990s. Part of the success of some industries, such as retail trade, and finance, insurance and real estate, is linked to information technology. The financial sector has been restructured to operate much more through information technology (for example, ATMs, Internet and phone banking) than through traditional face-to-face contacts.

Likewise, information technology played a part in the restructuring of retailing activities. Retailers were able to use bar code and scanning technology and inventory management systems as part of the process of transforming retailing from a storage-based to a fast flow-through operation. These two industries reported very strong growth of information technology capital during the late 1990s.

There may also be links between information technology and productivity at the firm level in other industries that, because of inter-firm differences in

these and other factors, do not translate as readily into industry trends.

The 2002 edition of *Productivity growth in Canada* is available electronically (15-204-XIE, \$35) or on paper (15-204-XPE, \$46).

For more information, contact Tarek M. Harchaoui, Micro-economic Analysis Division, at (613) 951-9856; fax: 613-951-5403; [harctar@statcan.ca](mailto:harctar@statcan.ca).

## ■ *Low-income cutoffs*

Low-income cutoffs (LICOs) for 2002, before and after taxes, are now available.

LICOs are income thresholds, determined by analysing family expenditure data, below which families will likely devote a larger share of income to the necessities of food, shelter and clothing than the average family would. To reflect differences in the cost of necessities among different community and family sizes, LICOs are defined for five community-size and seven family-size categories. LICOs are updated each year using the annual consumer price index.

Although LICOs are often referred to as poverty lines, they have no official status as such, and Statistics Canada does not recommend their use for this purpose.

For more information, refer to the publication *Low-income cutoffs from 1992 to 2001 and low-income measures from 1991 to 2000*, (75F0002MIE, 2002, no. 5, free), available on Statistics Canada's Web site ([www.statcan.ca](http://www.statcan.ca)). From the *Our products and services* page, under *Browse our Internet publications*, choose *Free*, then *Personal finance and household finance*.

To order this report or custom tabulations, contact Client Services, Income Statistics Division, at (613) 951-7355 or 1 888 297-7355; fax: 613-951-3012; [income@statcan.ca](mailto:income@statcan.ca).

## ■ *Labour force activity*

During the past decade, three key factors have shaped the nation's workforce: an increasing demand for skills in the face of advancing technologies and the knowledge-based economy, a working-age population that is increasingly made up of older people, and a growing reliance on immigration as a source of skills and labour force growth.

The demand for skills is clearly evident in the 2001 Census. From 1991 to 2001, the labour force increased by 1.3 million people (9.5%) to 15.6 million. Almost half of this growth occurred in highly skilled occupations that normally require university qualifications. In contrast, low-skill occupations requiring high school or less accounted for only one-quarter of the increase.

At the same time, the workforce has become much 'greyer.' The average age of the labour force rose from 37.1 in 1991 to 39.0, and about 15% of the labour force was within 10 years of retirement age. By 2011, when almost one-fifth of the baby boom generation will be at least 61, a potential for shortages will arise in certain occupations.

In addition, fertility rates have remained at low levels for the last three decades. As a result, fewer young people are entering the working-age population to replace individuals nearing retirement. In 2001, there were 2.7 labour force participants aged 20 to 34 for every one aged 55 and over, down from 3.7 in 1981.

Retiring baby boomers will have a significant impact on the size of the labour market, especially as relatively small cohorts of young people will be entering it. Boomers—people aged 37 to 55 in 2001—made up 47% of the labour force. Ten years from now, one-half of them will be 55 or over, and 18% will be over 60.

Canada has increasingly turned to immigration as a source of skills and knowledge. Census data show that immigrants who landed in Canada during the 1990s, and who were in the labour force in 2001, represented almost 70% of the total growth of the labour force over the decade. If current immigration rates continue, immigration could possibly account for virtually all labour force growth by 2011.

The 2001 Census showed that a gap in labour market conditions persisted between immigrants who arrived between 1996 and 2000 and the Canadian-born population. In 2001, 65.8% of recent immigrants aged 25 to 44 were employed, compared with 81.8% of

Canadian-born people in the same age group. The unemployment rate of recent immigrants (12.1%) was still nearly twice that of the Canadian-born population (6.4%).

At the same time, a higher proportion of recent immigrants were in highly skilled occupations. For example, recent immigrants made large gains in information technology occupations and accounted for two fifths of the labour force growth in this field.

Workers are no longer concentrated primarily in core municipalities, but are spreading across suburban municipalities. Many more workers are now located in these surrounding municipalities. As a result, urban dynamics, including commuting patterns, are changing.

The employed population whose usual place of work was within a census metropolitan area in 2001 was 7.9 million, an increase of 1.5 million from 1981. However, only about 25% of the new employed workers were located in the central municipalities, as many industries have created hubs of employment in suburban municipalities.

The number of workers in suburban municipalities has, in fact, been growing at a much faster pace over the last 20 years than the number working in city centres. In 1981, about 1.8 million people worked in suburban municipalities. By 2001, this number had jumped 63% to 3.0 million. In contrast, the number of workers in the central municipalities increased only 7%, from 4.6 million to 4.9 million.

The large growth in workers employed in suburban municipalities has shifted the commuting patterns within census metropolitan areas towards these surrounding areas. In 1981, about 1 million workers travelled to a suburban municipality, about the same number as those who commuted to core municipalities. By 2001, the number of workers travelling to a suburban municipality increased a dramatic 74% to 1.8 million, but the number commuting to the central municipality rose only 28% to 1.3 million.



Detailed analysis of these new census data is presented in two online reports: *The changing profile of Canada's labour force* and *Where Canadians work and how they get there*. The publications are available on Statistics Canada's Web site ([www.statcan.ca](http://www.statcan.ca)) and are illustrated by numerous tables and charts.

These reports also link to various products and services available from the *Census* module, which was designed to provide easy access to census data, using new electronic tools. Information in the module is organized into four broad categories: analysis, data, maps, and reference material.

In addition, in the *Community profiles* module, data on labour force indicators, industry, occupation, unpaid work, place of work, and mode of transportation are available for Canada and the provinces and territories, as well as for 27 metropolitan areas and nearly 6,000 cities, towns, villages, and Indian reserves.

For more information, contact Statistics Canada Advisory Services at 1-800-263-1136 or [infostats@statcan.ca](mailto:infostats@statcan.ca).

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### Perspectives

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#### *Are you moving?*

Please forward your name, old address, new address, telephone number and client reference number to: **Statistics Canada, Operations and Integration Division, Circulation Management, 120 Parkdale Avenue, Ottawa, Ontario K1A 0T6**; or call (613) 951-7277 or 1 800 700-1033 toll free, or fax (613) 951-1584.

Please allow four weeks notice to ensure uninterrupted delivery.

# Key labour and income facts

## *Selected charts and analysis*

This section presents charts and analysis featuring one or more of the following sources. For general inquiries, contact Joanne Bourdeau at (613) 951-4722; [bourjoa@statcan.ca](mailto:bourjoa@statcan.ca).

### **Administrative data**

#### *Small area and administrative data*

Frequency: Annual  
Contact: Customer Services  
(613) 951-9720

### **Business surveys**

#### *Annual Survey of Manufactures*

Frequency: Annual  
Contact: Dissemination agent  
(613) 951-9497

#### *Annual Surveys—Service Industries*

Frequency: Annual  
Contact: Lucie Lussier  
(613) 951-0410

#### *Business Conditions Survey of Manufacturing Industries*

Frequency: Quarterly  
Contact: Claude Robillard  
(613) 951-3507

### **Census**

#### *Census labour force characteristics*

Frequency: Quinquennial  
Contact: Michel Côté  
(613) 951-6896

#### *Census income statistics*

Frequency: Quinquennial  
Contact: John Gartley  
(613) 951-6906

### **Employment and income surveys**

#### *Labour Force Survey*

Frequency: Monthly  
Contact: Marc Lévesque  
(613) 951-4090

#### *Survey of Employment, Payrolls and Hours*

Frequency: Monthly  
Contact: Sylvie Picard  
(613) 951-4090

#### *Help-wanted Index*

Frequency: Monthly  
Contact: Sylvie Picard  
(613) 951-4090

#### *Employment Insurance Statistics Program*

Frequency: Monthly  
Contact: Sylvie Picard  
(613) 951-4090

#### *Major wage settlements*

Bureau of Labour Information  
(Human Resources Development Canada)  
Frequency: Quarterly  
Contact: (819) 997-3117  
1 800 567-6866

#### *Labour income*

Frequency: Quarterly  
Contact: Anna MacDonald  
(613) 951-3784

#### *Survey of Labour and Income Dynamics*

Frequency: Annual  
Contact: Client Services  
(613) 951-7355 or  
1 888 297-7355

#### *Survey of Financial Security*

Frequency: Occasional  
Contact: Client Services  
(613) 951-7355 or  
1 888 297-7355

#### *Survey of Household Spending*

Frequency: Annual  
Contact: Client Services  
(613) 951-7355 or  
1 888 297-7355

### **General social survey**

#### *Education, work and retirement*

Frequency: Occasional  
Contact: Client Services  
(613) 951-5979

#### *Social and community support*

Frequency: Occasional  
Contact: Client Services  
(613) 951-5979

#### *Time use*

Frequency: Occasional  
Contact: Client Services  
(613) 951-5979

### **Pension surveys**

#### *Pension Plans in Canada Survey*

Frequency: Annual  
Contact: Patricia Schembari  
(613) 951-9502

#### *Quarterly Survey of Trusteed Pension Funds*

Frequency: Quarterly  
Contact: Bob Anderson  
(613) 951-4034

### **Special surveys**

#### *Survey of Work Arrangements*

Frequency: Occasional  
Contact: Ernest B. Akyeampong  
(613) 951-4624

#### *Adult Education and Training Survey*

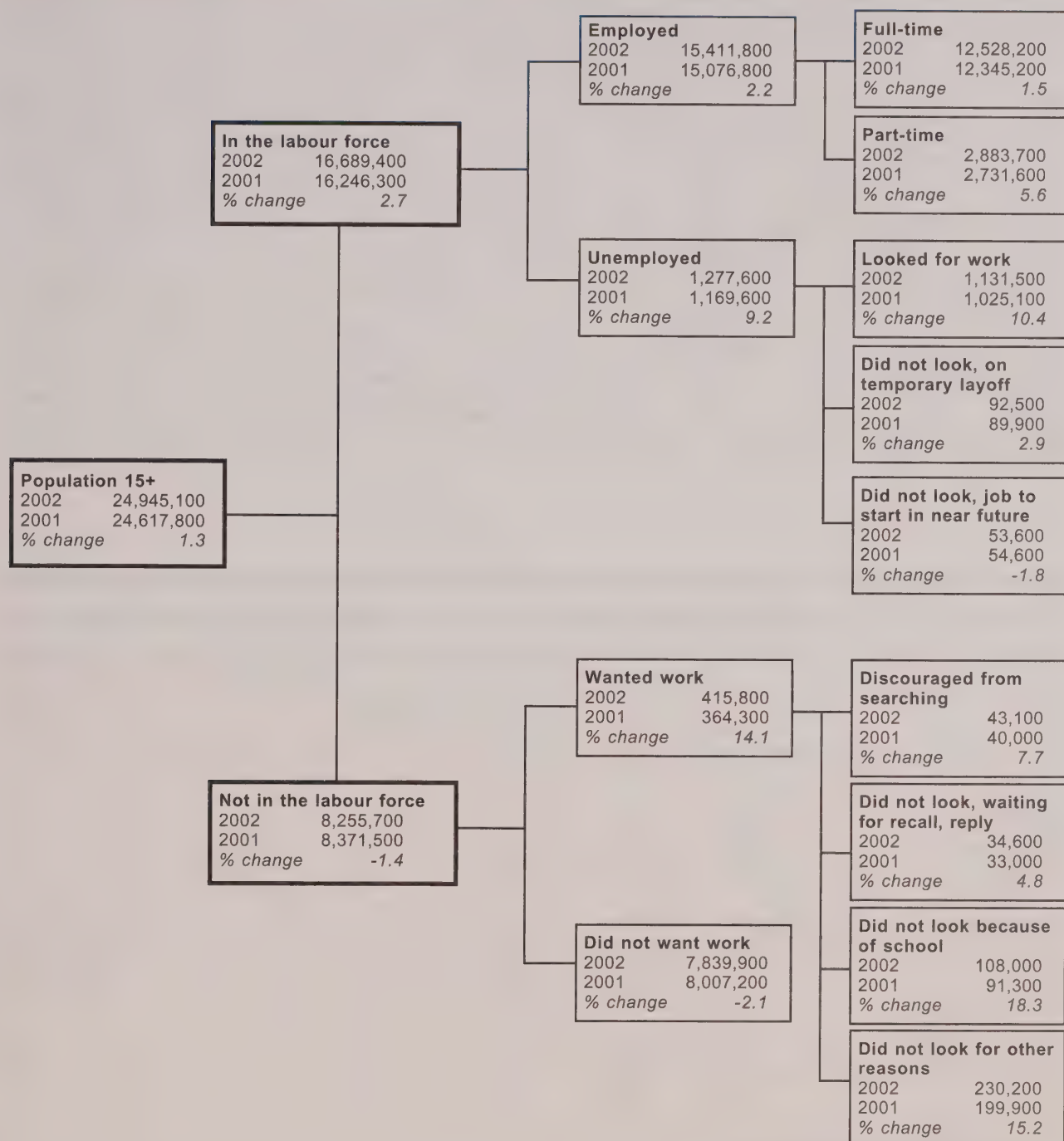
Frequency: Occasional  
Contact: Client Services  
(613) 951-7355 or  
1 888 297-7355

#### *Graduate Surveys*

(Postsecondary)  
Frequency: Occasional  
Contact: Client Services  
(613) 951-7608



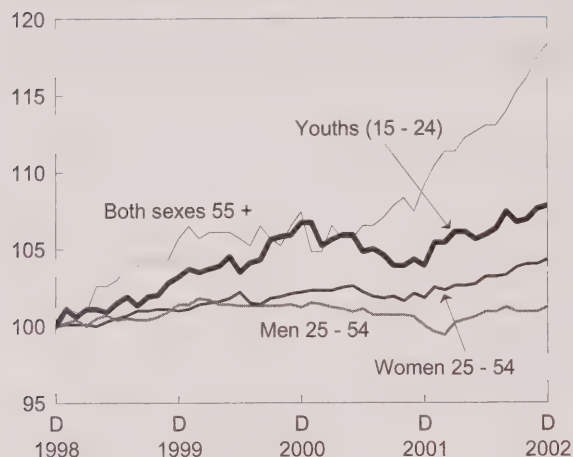
## Labour force status of Canada's working-age population



Source: Labour Force Survey, annual averages

**In 2002, the employment rate for older workers increased the most.**

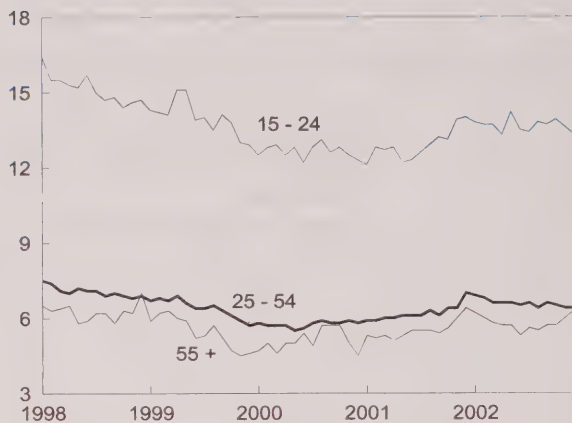
Employment rate index, December 1998=100



Source: Labour Force Survey, seasonally adjusted

**The unemployment rate decreased for all age groups in 2002.**

Unemployment rate (%)



Source: Labour Force Survey, seasonally adjusted

**In percentage terms, employment growth outpaced population growth for all age groups in 2002.**

	December level			December-to-December change			
	1998	2001	2002	1998 to 2002	2001 to 2002	1998 to 2002	2001 to 2002
	'000			'000		%	
<b>Population 15 +</b>	<b>23,805.3</b>	<b>24,764.1</b>	<b>25,087.4</b>	<b>1,282.1</b>	<b>323.3</b>	<b>5.4</b>	<b>1.3</b>
Youths (15 - 24)	4,018.9	4,115.2	4,145.9	127.0	30.7	3.2	0.7
Men 25 - 54	6,806.4	7,009.6	7,042.7	236.3	33.1	3.5	0.5
Women 25 - 54	6,825.7	7,005.5	7,034.9	209.2	29.4	3.1	0.4
Both sexes 55 +	6,154.3	6,633.8	6,863.9	709.6	230.1	11.5	3.5
<b>Employment 15 +</b>	<b>14,316.7</b>	<b>15,090.2</b>	<b>15,649.8</b>	<b>1,333.1</b>	<b>559.6</b>	<b>9.3</b>	<b>3.7</b>
Youths (15 - 24)	2,164.0	2,300.3	2,404.5	240.5	104.2	11.1	4.5
Men 25 - 54	5,764.3	5,936.7	6,035.9	271.6	99.2	4.7	1.7
Women 25 - 54	4,970.6	5,190.5	5,342.3	371.7	151.8	7.5	2.9
Both sexes 55 +	1,417.8	1,662.7	1,867.0	449.2	204.3	31.7	12.3
<b>Unemployment 15 +</b>	<b>1,270.1</b>	<b>1,318.8</b>	<b>1,275.9</b>	<b>5.8</b>	<b>-42.9</b>	<b>0.5</b>	<b>-3.3</b>
Youths (15 - 24)	372.8	374.4	368.3	-4.5	-6.1	-1.2	-1.6
Men 25 - 54	441.1	478.8	434.0	-7.1	-44.8	-1.6	-9.4
Women 25 - 54	350.2	352.7	347.3	-2.9	-5.4	-0.8	-1.5
Both sexes 55 +	106.0	112.9	126.4	20.4	13.5	19.2	12.0

Source: Labour Force Survey, seasonally adjusted



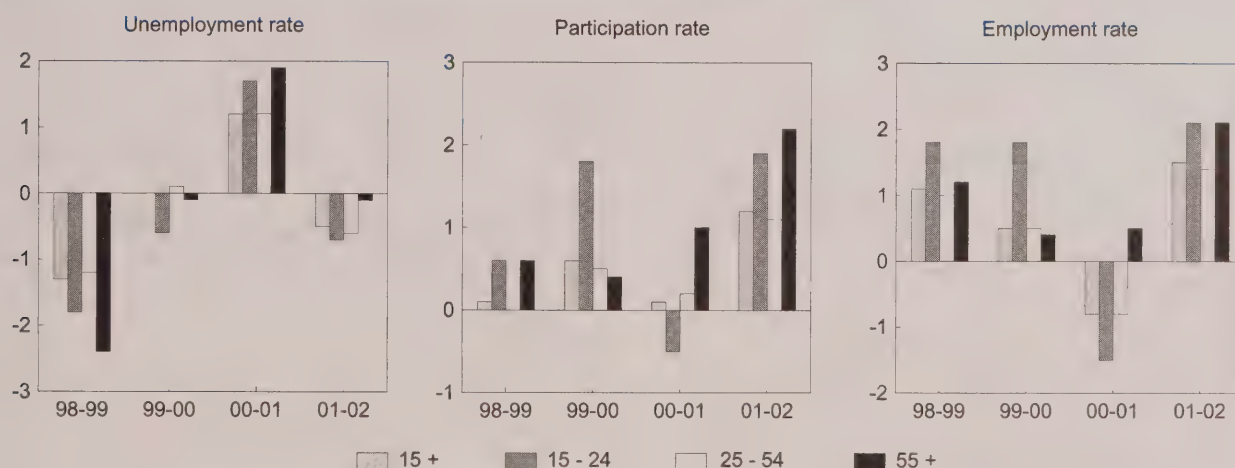
## Rising labour force participation slowed decreases in unemployment rates.

	December level			December-to-December change	
	1998	2001	2002	1998 to 2002	2001 to 2002
	%			% -point	
<b>Unemployment rate 15 +</b>	<b>8.1</b>	<b>8.0</b>	<b>7.5</b>	<b>-0.6</b>	<b>-0.5</b>
Youths (15 - 24)	14.7	14.0	13.3	-1.4	-0.7
Men 25 - 54	7.1	7.5	6.7	-0.4	-0.8
Women 25 - 54	6.6	6.4	6.1	-0.5	-0.3
Both sexes 55 +	7.0	6.4	6.3	-0.7	-0.1
<b>Participation rate 15 +</b>	<b>65.5</b>	<b>66.3</b>	<b>67.5</b>	<b>2.0</b>	<b>1.2</b>
Youths (15 - 24)	63.1	65.0	66.9	3.8	1.9
Men 25 - 54	91.2	91.5	91.9	0.7	0.4
Women 25 - 54	78.0	79.1	80.9	2.9	1.8
Both sexes 55 +	24.8	26.8	29.0	4.2	2.2
<b>Employment rate 15 +</b>	<b>60.1</b>	<b>60.9</b>	<b>62.4</b>	<b>2.3</b>	<b>1.5</b>
Youths (15 - 24)	53.8	55.9	58.0	4.2	2.1
Men 25 - 54	84.7	84.7	85.7	1.0	1.0
Women 25 - 54	72.8	74.1	75.9	3.1	1.8
Both sexes 55 +	23.0	25.1	27.2	4.2	2.1

Source: Labour Force Survey, seasonally adjusted

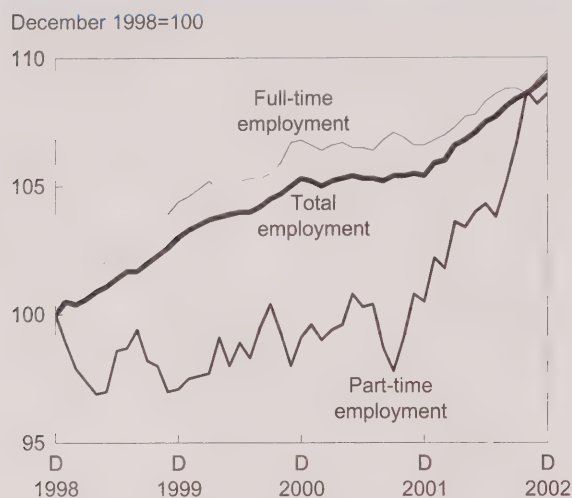
## Employment rates in 2002 more than recovered from 2001.

December-to-December percentage-point change



Source: Labour Force Survey, seasonally adjusted

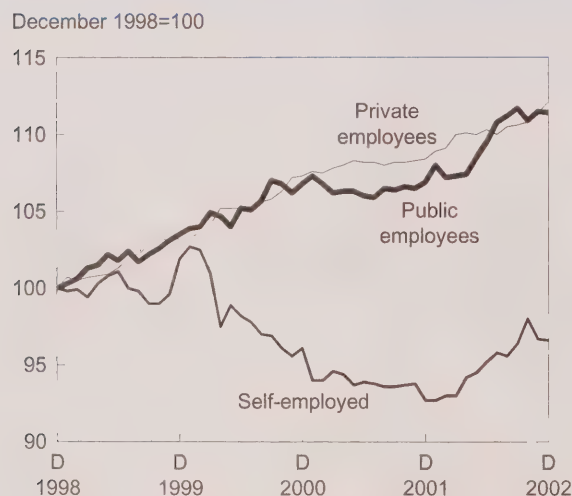
### The rise in overall employment in 2002 split between full-time and part-time.



	Employment	Full-time	Part-time
		'000	
<b>December level</b>			
1998	14,316.7	11,576.9	2,739.9
2001	15,090.2	12,337.2	2,753.0
2002	15,649.8	12,673.5	2,976.3
<b>Absolute change</b>			
1998 to 2002	1,333.1	1,096.6	236.4
2001 to 2002	559.6	336.3	223.3
		%	
<b>Percentage change</b>			
1998 to 2002	9.3	9.5	8.6
2001 to 2002	3.7	2.7	8.1

Source: Labour Force Survey, seasonally adjusted

### Self-employment increased strongly in 2002.



	Total employment	Employees		Self-employed
		Public	Private	
		'000		
<b>December level</b>				
1998	14,316.7	2,650.5	9,204.0	2,462.2
2001	15,090.2	2,833.8	9,974.8	2,281.6
2002	15,649.8	2,953.4	10,317.9	2,378.5
<b>Absolute change</b>				
1998 to 2002	1,333.1	302.9	1,113.9	-83.7
2001 to 2002	559.6	119.6	343.1	96.9
		%		
<b>Percentage change</b>				
1998 to 2002	9.3	11.4	12.1	-3.4
2001 to 2002	3.7	4.2	3.4	4.2

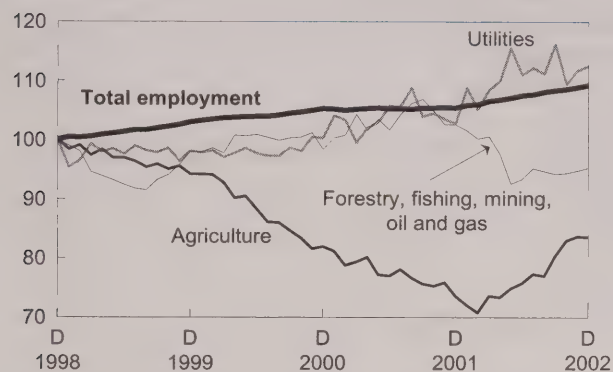
Source: Labour Force Survey, seasonally adjusted



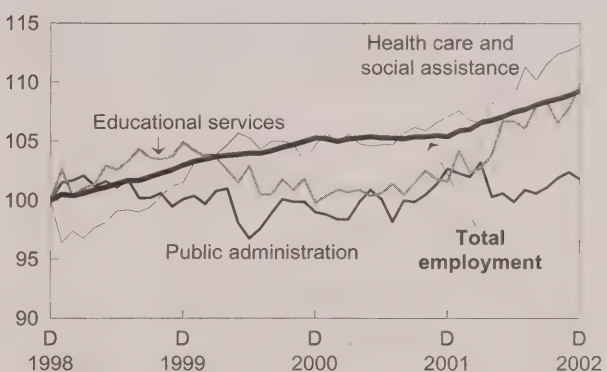
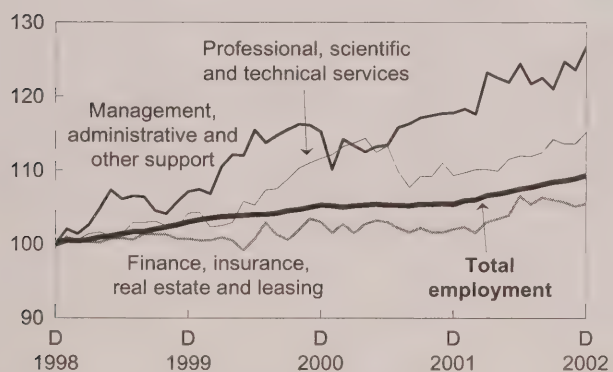
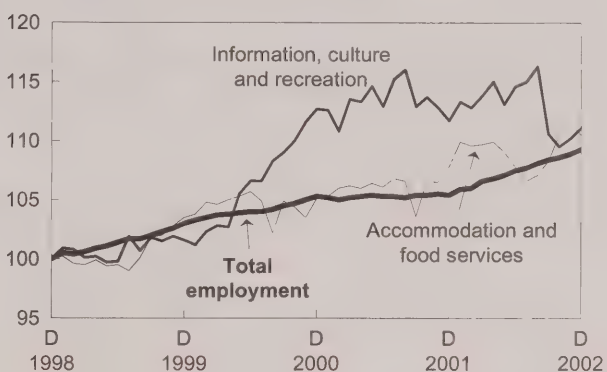
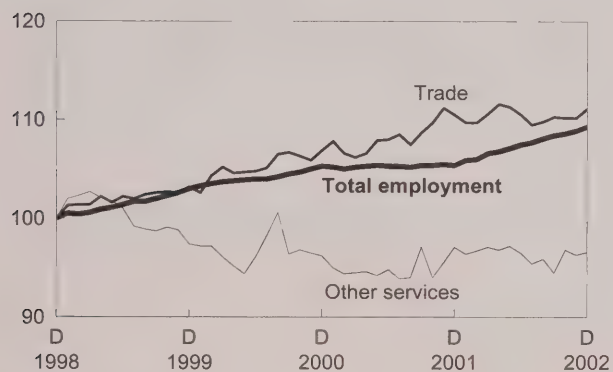
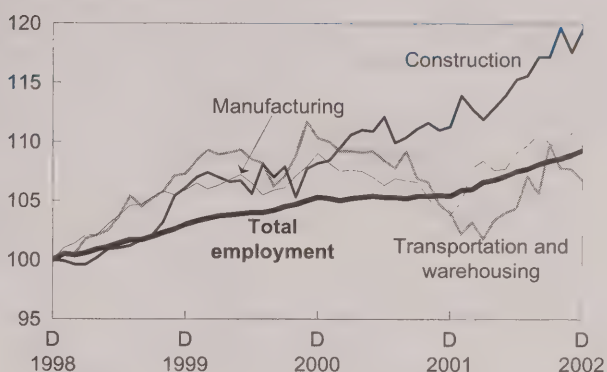
Over the last four years, employment growth has been strongest in construction, and management, administrative and other support industries.

### Employment index

December 1998=100

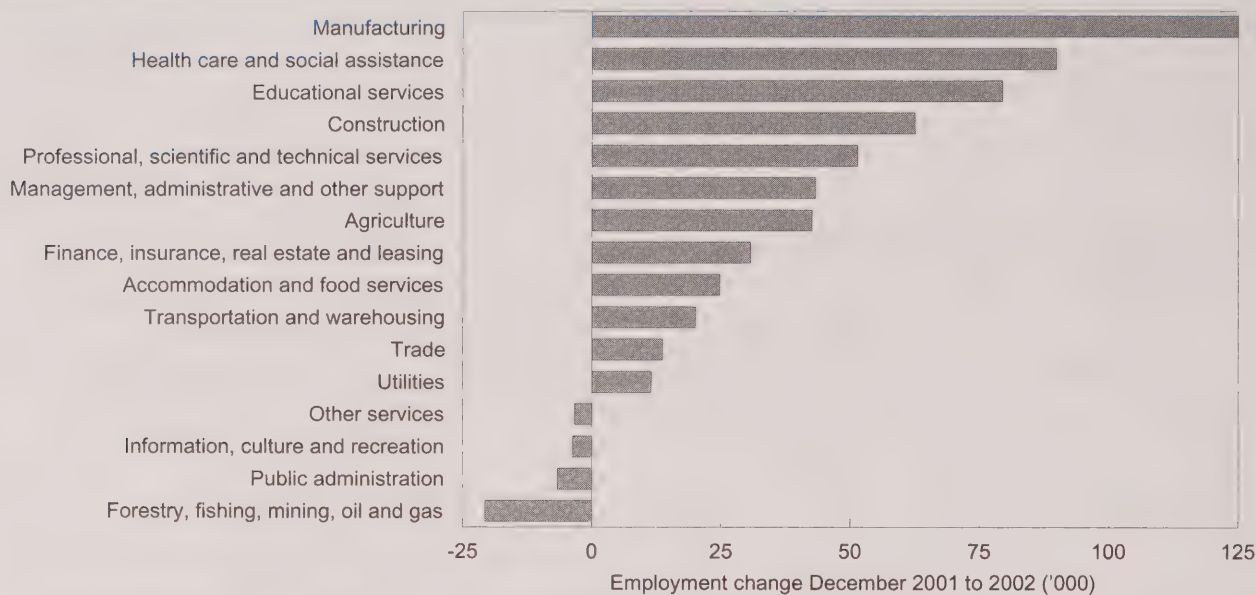


December 1998=100



Source: Labour Force Survey, seasonally adjusted

## Employment increases were seen in the majority of industries in 2002.



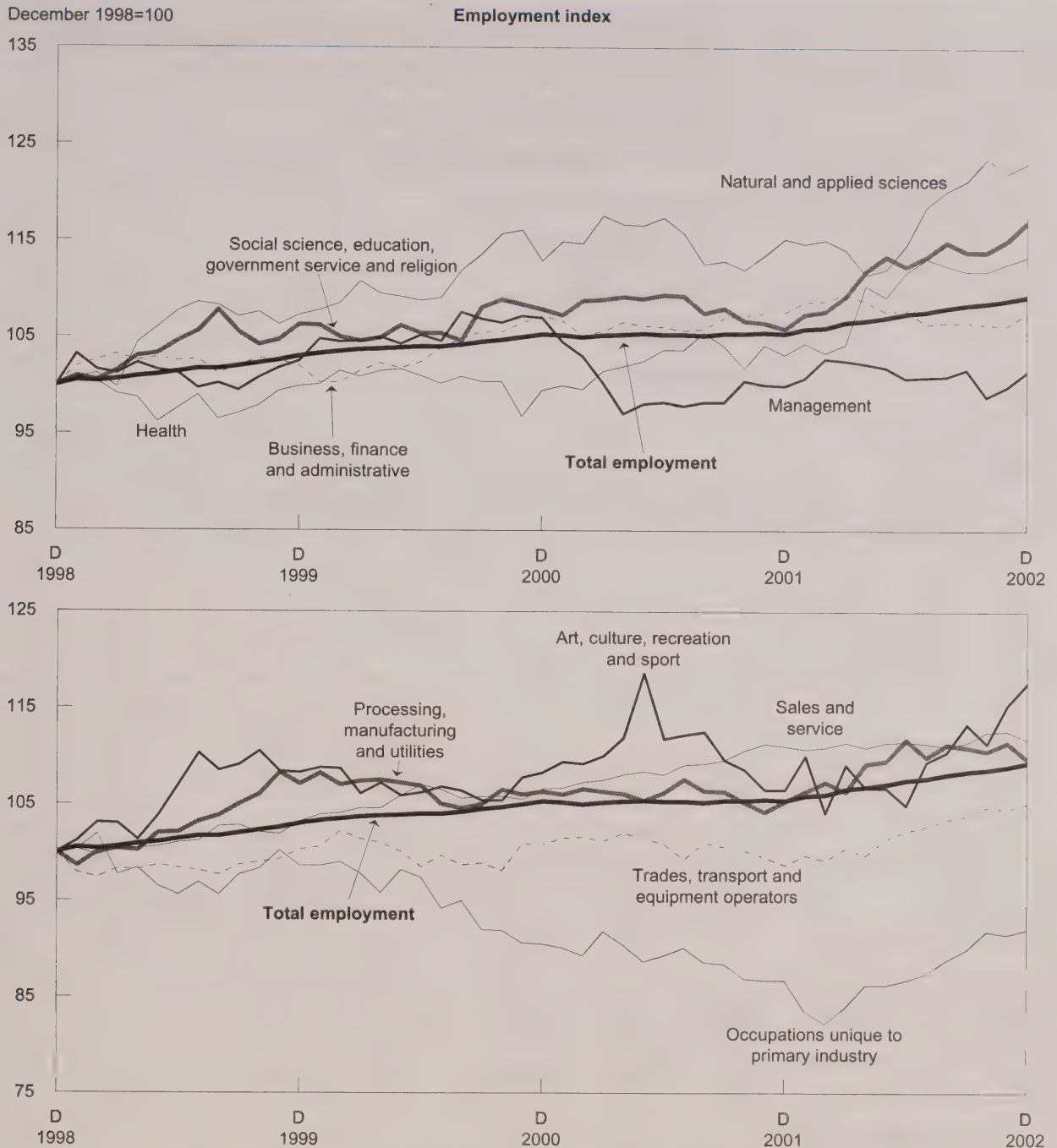
Source: Labour Force Survey, seasonally adjusted

	December level			December-to-December change			
	1998	2001	2002	1998 to 2002	2001 to 2002	1998 to 2002	2001 to 2002
	'000			'000		%	
<b>All industries</b>	<b>14,316.7</b>	<b>15,090.2</b>	<b>15,649.8</b>	<b>1,333.1</b>	<b>559.6</b>	<b>9.3</b>	<b>3.7</b>
Goods-producing	3,725.7	3,791.4	4,011.9	286.2	220.5	7.7	5.8
Agriculture	424.7	312.7	355.2	-69.5	42.5	-16.4	13.6
Forestry, fishing, mining, oil and gas	283.4	290.9	270.2	-13.2	-20.7	-4.7	-7.1
Utilities	118.4	121.7	133.2	14.8	11.5	12.5	9.4
Construction	762.5	848.6	911.0	148.5	62.4	19.5	7.4
Manufacturing	2,136.7	2,217.4	2,342.2	205.5	124.8	9.6	5.6
Services-producing	10,591.0	11,298.8	11,637.9	1,046.9	339.1	9.9	3.0
Trade	2,201.4	2,432.5	2,446.2	244.8	13.7	11.1	0.6
Transportation and warehousing	716.9	745.7	765.7	48.8	20.0	6.8	2.7
Finance, insurance, real estate and leasing	856.1	872.8	903.5	47.4	30.7	5.5	3.5
Professional, scientific and technical services	887.1	969.7	1,021.0	133.9	51.3	15.1	5.3
Management, administrative and other support	483.1	569.0	612.2	129.1	43.2	26.7	7.6
Educational services	955.6	970.7	1,050.0	94.4	79.3	9.9	8.2
Health care and social assistance	1,461.3	1,564.8	1,654.5	193.2	89.7	13.2	5.7
Information, culture and recreation	624.0	696.8	693.1	69.1	-3.7	11.1	-0.5
Accommodation and food services	919.5	991.2	1,015.9	96.4	24.7	10.5	2.5
Other services	719.2	698.2	694.9	-24.3	-3.3	-3.4	-0.5
Public administration	766.9	787.5	780.9	14.0	-6.6	1.8	-0.8

Source: Labour Force Survey, seasonally adjusted

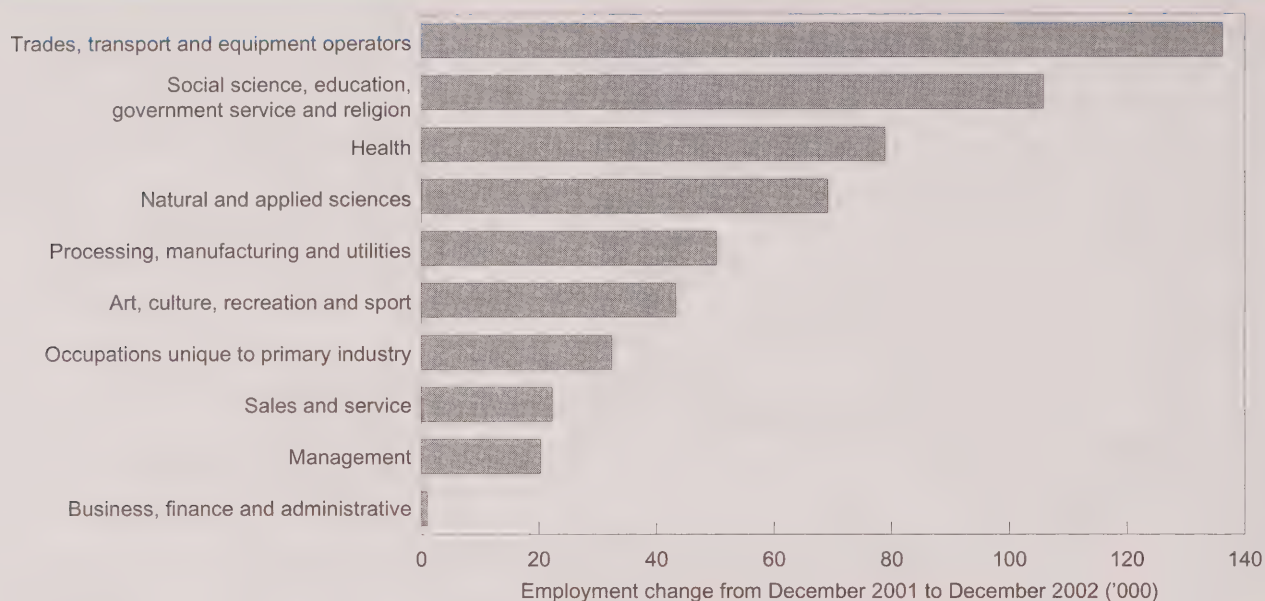


Since 1998, natural and applied science occupations increased the most in percentage terms. This group includes computer programmers, systems analysts and computer engineers.



Source: Labour Force Survey, seasonally adjusted

**Trades, transport and equipment operators, increased the most. Business, finance and administrative occupations saw almost no increase.**



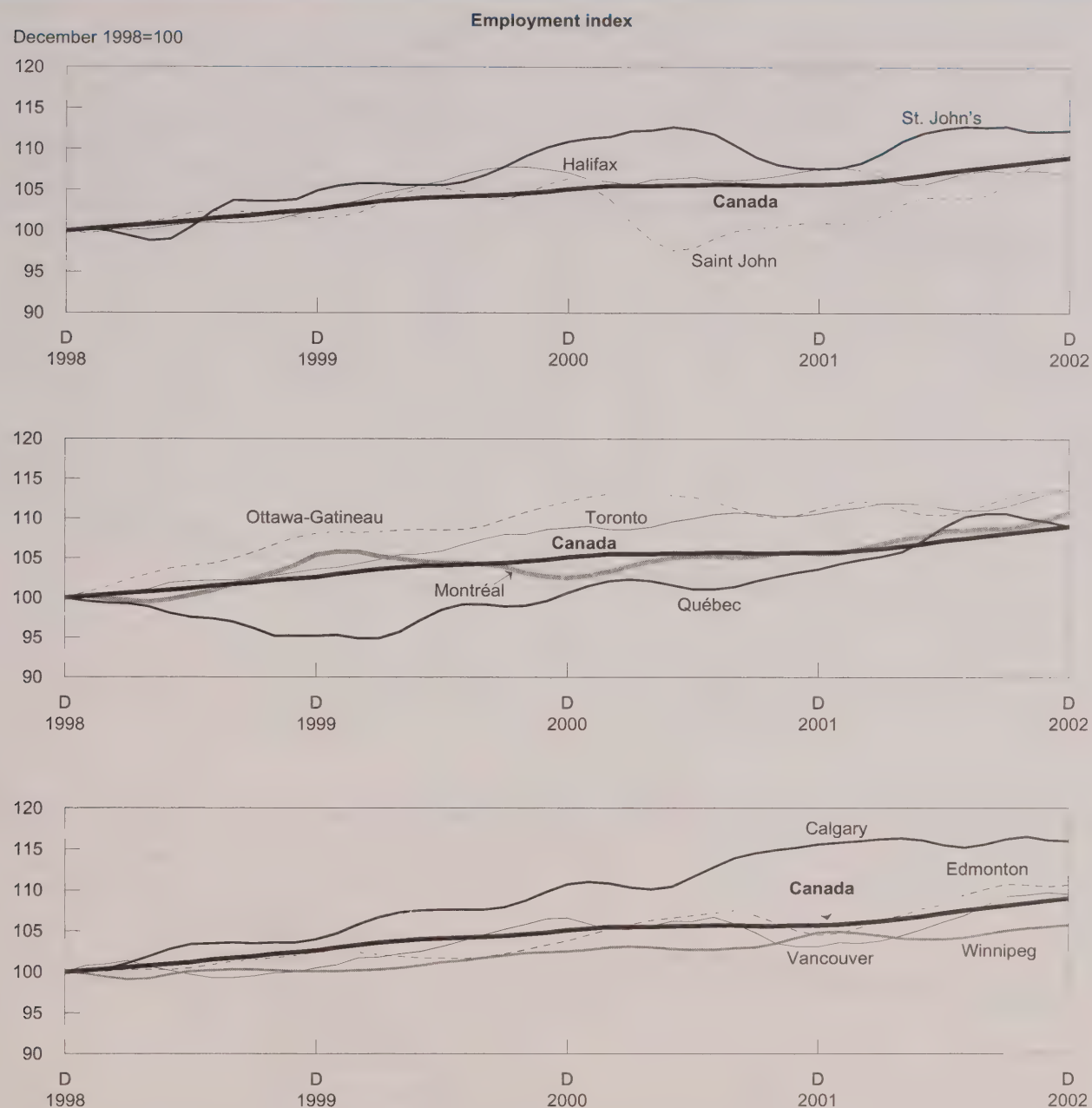
Source: Labour Force Survey, seasonally adjusted

	December level			December-to-December change			
	1998	2001	2002	1998 to 2002	2001 to 2002	1998 to 2002	2001 to 2002
	'000			'000		%	
<b>All occupations</b>	<b>14,316.7</b>	<b>15,090.2</b>	<b>15,649.8</b>	<b>1,333.1</b>	<b>559.6</b>	<b>9.3</b>	<b>3.7</b>
Management	1,354.6	1,354.2	1,374.5	19.9	20.3	1.5	1.5
Business, finance and administrative	2,556.9	2,751.2	2,752.2	195.3	1.0	7.6	0.0
Natural and applied sciences	871.4	1,003.5	1,072.6	201.2	69.1	23.1	6.9
Health	777.4	802.5	881.4	104.0	78.9	13.4	9.8
Social science, education, government service and religion	953.5	1,009.5	1,115.3	161.8	105.8	17.0	10.5
Art, culture, recreation and sport	389.9	415.1	458.4	68.5	43.3	17.6	10.4
Sales and service	3,529.1	3,918.3	3,940.6	411.5	22.3	11.7	0.6
Trades, transport and equipment operators	2,128.3	2,100.1	2,236.3	108.0	136.2	5.1	6.5
Occupations unique to primary industry	608.0	527.1	559.5	-48.5	32.4	-8.0	6.1
Processing, manufacturing and utilities	1,147.8	1,208.7	1,258.9	111.1	50.2	9.7	4.2

Source: Labour Force Survey, seasonally adjusted



**Employment in Calgary has increased more than in any other city over the last four years.**

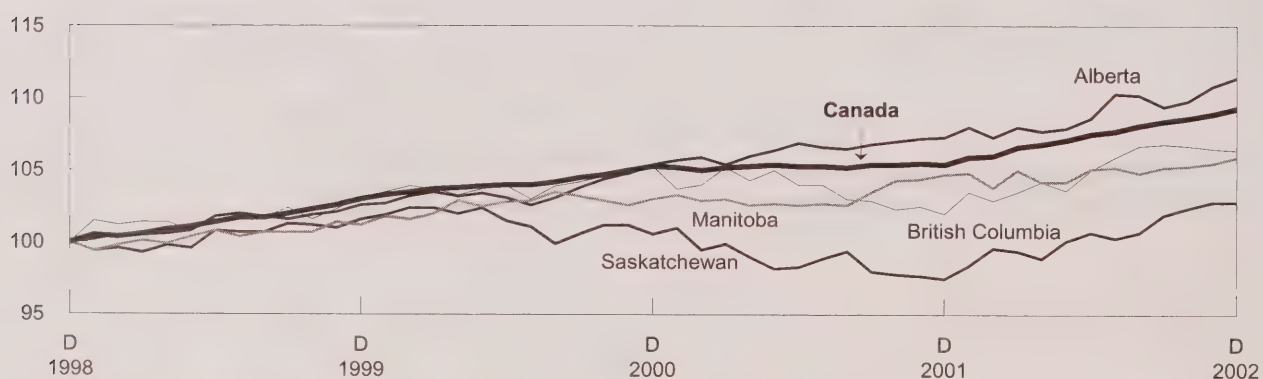
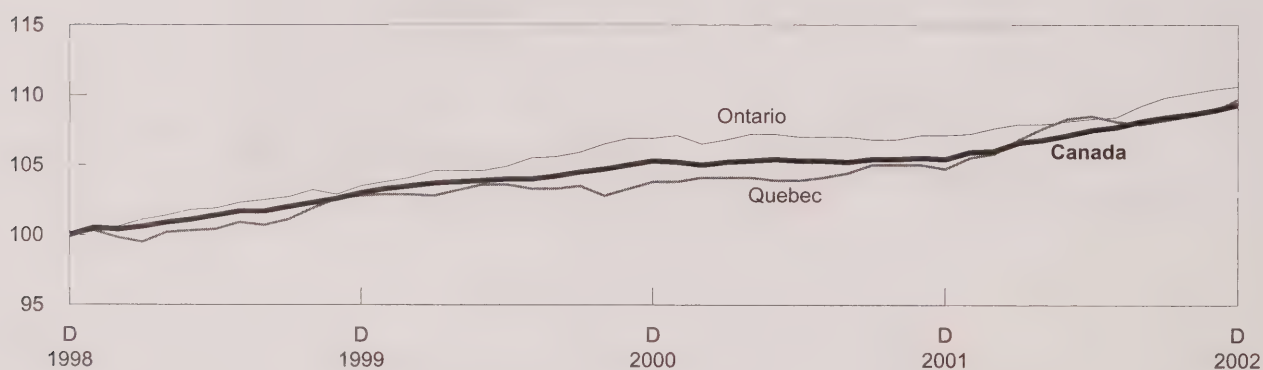
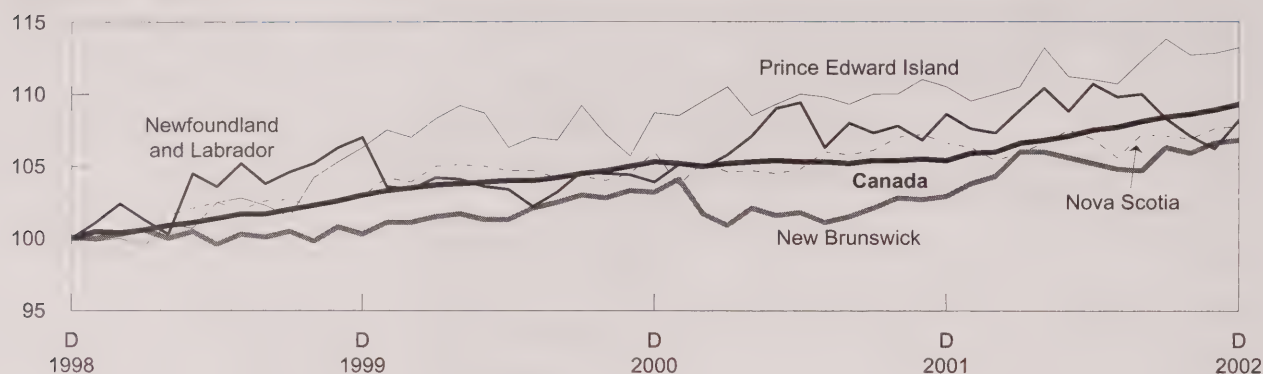


Source: Labour Force Survey, seasonally adjusted, three-month moving average

In percentage terms, job growth was strongest in Saskatchewan in 2002.

Employment index

December 1998=100



Source: Labour Force Survey, seasonally adjusted

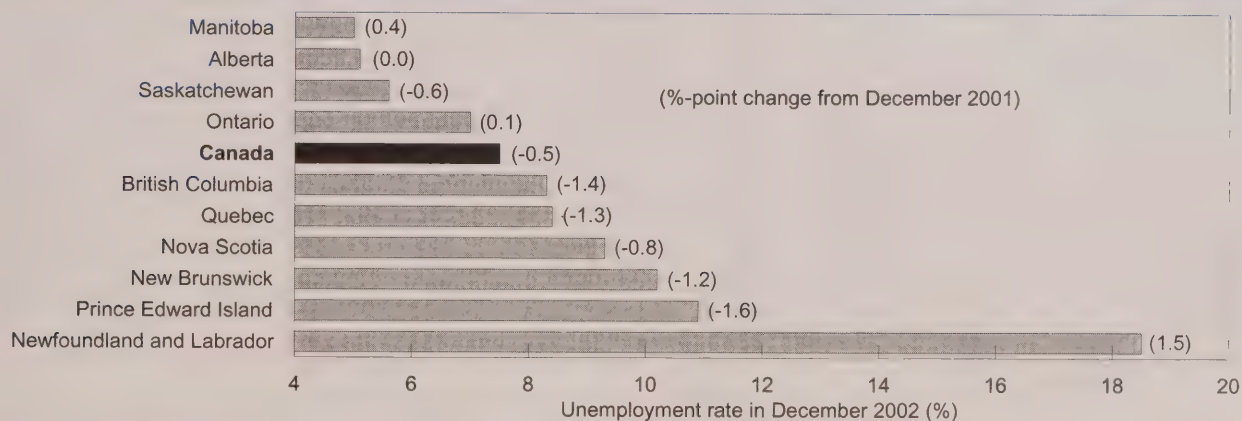


**Ontario and Quebec had the greatest number of newly employed people in 2002, but only Quebec saw a decrease in the number of unemployed.**

	December level			December-to-December change			
	1998	2001	2002	1998 to 2002	2001 to 2002	1998 to 2002	2001 to 2002
	'000			'000		%	
<b>Employed</b>							
<b>Canada</b>	<b>14,316.7</b>	<b>15,090.2</b>	<b>15,649.8</b>	<b>1,333.1</b>	<b>559.6</b>	<b>9.3</b>	<b>3.7</b>
Newfoundland and Labrador	197.3	214.2	213.5	16.2	-0.7	8.2	-0.3
Prince Edward Island	60.0	66.3	67.9	7.9	1.6	13.2	2.4
Nova Scotia	401.0	427.5	432.3	31.3	4.8	7.8	1.1
New Brunswick	327.6	337.0	350.0	22.4	13.0	6.8	3.9
Quebec	3,329.9	3,486.4	3,654.2	324.3	167.8	9.7	4.8
Ontario	5,574.9	5,970.1	6,166.1	591.2	196.0	10.6	3.3
Manitoba	540.2	565.5	572.3	32.1	6.8	5.9	1.2
Saskatchewan	478.2	466.2	491.8	13.6	25.6	2.8	5.5
Alberta	1,532.8	1,644.1	1,707.5	174.7	63.4	11.4	3.9
British Columbia	1,874.8	1,913.0	1,994.2	119.4	81.2	6.4	4.2
<b>Unemployed</b>							
<b>Canada</b>	<b>1,270.1</b>	<b>1,318.8</b>	<b>1,275.9</b>	<b>5.8</b>	<b>-42.9</b>	<b>0.5</b>	<b>-3.3</b>
Newfoundland and Labrador	45.3	43.9	48.5	3.2	4.6	7.1	10.5
Prince Edward Island	10.5	9.5	8.3	-2.2	-1.2	-21.0	-12.6
Nova Scotia	43.9	47.9	44.4	0.5	-3.5	1.1	-7.3
New Brunswick	43.1	43.3	39.8	-3.3	-3.5	-7.7	-8.1
Quebec	382.9	375.7	336.3	-46.6	-39.4	-12.2	-10.5
Ontario	414.4	445.2	465.2	50.8	20.0	12.3	4.5
Manitoba	32.8	27.5	30.3	-2.5	2.8	-7.6	10.2
Saskatchewan	31.8	30.9	29.1	-2.7	-1.8	-8.5	-5.8
Alberta	92.3	88.7	92.5	0.2	3.8	0.2	4.3
British Columbia	173.0	206.4	181.6	8.6	-24.8	5.0	-12.0

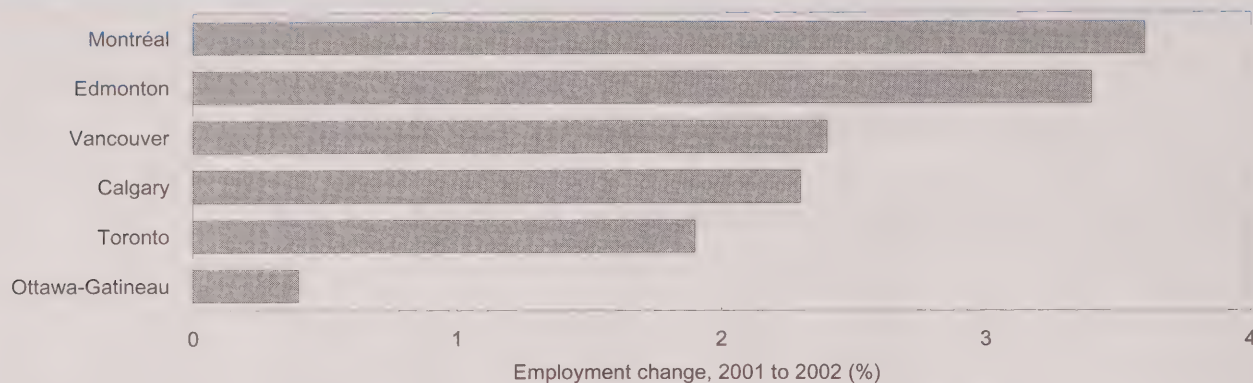
Source: Labour Force Survey, seasonally adjusted

## Unemployment rates decreased in most provinces in 2002.



Source: Labour Force Survey, seasonally adjusted

**In Canada's six largest cities, the average level of employment increased most in Montréal and Edmonton.**



Source: Labour Force Survey, annual averages

	Annual average			Change			
	1998	2001	2002	1998 to 2002	2001 to 2002	1998 to 2002	2001 to 2002
	'000	'000	'000	'000	'000	%	%
<b>Canada</b>	<b>14,140.4</b>	<b>15,076.8</b>	<b>15,411.8</b>	<b>1,271.40</b>	<b>335.0</b>	<b>9.0</b>	<b>2.2</b>
St. John's	78.8	85.9	87.8	9.0	1.9	11.4	2.2
Halifax	172.2	183.8	183.6	11.4	-0.2	6.6	-0.1
Saint John	56.7	58.1	61.8	5.1	3.7	9.0	6.4
Chicoutimi-Jonquière	64.4	70.1	70.1	5.7	0.0	8.9	0.0
Québec	324.5	339	358.5	34.0	19.5	10.5	5.8
Trois-Rivières	60.7	65.5	64.6	3.9	-0.9	6.4	-1.4
Sherbrooke	65.9	74.4	76.7	10.8	2.3	16.4	3.1
Montréal	1,614.5	1,705.7	1,767.3	152.8	61.6	9.5	3.6
Ottawa-Gatineau	517.1	576.1	578.4	61.3	2.3	11.9	0.4
Sudbury	71.7	72.5	73.4	1.7	0.9	2.4	1.2
Oshawa	140.6	154.3	157.5	16.9	3.2	12.0	2.1
Toronto	2,312.5	2,571.8	2,621.7	309.2	49.9	13.4	1.9
Hamilton	324	348.3	347.9	23.9	-0.4	7.4	-0.1
St. Catharines-Niagara	179.4	190	193.2	13.8	3.2	7.7	1.7
London	200.8	216	214.5	13.7	-1.5	6.8	-0.7
Windsor	140.1	154.6	158.8	18.7	4.2	13.3	2.7
Kitchener	208.1	225.7	228.7	20.6	3.0	9.9	1.3
Thunder Bay	57.4	62.1	61.1	3.7	-1.0	6.4	-1.6
Winnipeg	343.6	358.2	362.8	19.2	4.6	5.6	1.3
Regina	104.9	105.2	108	3.1	2.8	3.0	2.7
Saskatoon	112	115.6	119.4	7.4	3.8	6.6	3.3
Calgary	499.1	569.5	582.6	83.5	13.1	16.7	2.3
Edmonton	474.9	504.8	522.1	47.2	17.3	9.9	3.4
Vancouver	979.6	1,051.1	1,076.2	96.6	25.1	9.9	2.4
Victoria	146.6	148.9	151.2	4.6	2.3	3.1	1.5

Source: Labour Force Survey



**Workers in primary industries and occupations worked the longest hours in 2002.**

	Employed	Usual hours, main job							Total ('000)	Avg.
		1-14	15-29	30-34	35-39	40	41-49	50+		
		'000								
<b>Total</b>	<b>15,411.8</b>	<b>907.0</b>	<b>1,976.7</b>	<b>1,021.2</b>	<b>3,300.9</b>	<b>5,844.9</b>	<b>977.9</b>	<b>1,383.2</b>	<b>560,186.3</b>	<b>36.3</b>
<b>Industry</b>										
Agriculture	330.0	24.2	37.1	21.7	14.2	72.6	24.6	135.7	14,947.7	45.3
Forestry, fishing, mining, oil and gas	272.0	5.1	7.2	6.8	24.5	124.9	32.5	71.1	12,274.7	45.1
Utilities	131.5	0.0	2.4	7.5	50.6	61.6	4.7	3.4	5,012.3	38.1
Construction	882.8	23.0	48.2	42.3	80.9	435.5	98.6	154.1	35,924.7	40.7
Manufacturing	2,326.2	24.9	57.2	47.0	310.6	1,570.4	217.1	99.2	92,278.5	39.7
Trade	2,430.0	206.4	470.1	181.9	325.5	904.1	160.6	181.6	83,013.5	34.2
Transportation and warehousing	756.2	18.2	67.9	31.4	90.5	338.6	57.5	152.2	31,188.3	41.2
Finance, insurance, real estate and leasing	895.6	34.8	98.0	46.1	357.7	247.1	41.7	70.1	32,637.2	36.4
Professional, scientific and technical services	993.3	45.1	86.8	52.7	259.7	371.5	55.7	121.8	37,534.5	37.8
Management, administrative and other support	591.4	51.2	94.7	51.1	98.3	213.4	36.6	46.2	20,326.3	34.4
Educational services	1,015.9	101.5	158.6	103.2	303.1	272.1	30.9	46.4	33,082.2	32.6
Health care and social assistance	1,607.0	85.9	327.5	176.6	558.1	316.6	50.5	91.8	54,294.7	33.8
Information, culture and recreation	704.8	75.9	104.7	50.2	175.5	222.9	30.4	45.2	23,597.4	33.5
Accommodation and food services	1,003.9	126.6	279.2	119.3	108.4	253.1	42.8	74.5	31,133.3	31.0
Other services	693.2	66.2	101.9	52.1	95.5	244.1	55.7	77.6	24,415.5	35.2
Public administration	778.0	16.7	35.4	31.2	448.0	196.5	37.9	12.3	28,525.6	36.7
<b>Occupation</b>										
Management	1,371.5	23.5	57.2	45.9	277.7	539.4	124.3	303.5	58,218.1	42.4
Business, finance and administrative	2,750.7	138.9	314.2	164.4	1,028.6	922.8	94.8	87.1	96,446.7	35.1
Natural and applied sciences	1,026.0	14.3	38.0	28.1	361.4	465.9	51.5	66.8	39,888.4	38.9
Health	856.0	36.7	191.0	102.9	277.9	168.1	32.0	47.5	28,956.1	33.8
Social science, education, government service and religion	1,073.8	68.9	140.4	94.1	352.4	298.5	40.6	78.9	37,397.6	34.8
Art, culture, recreation and sport	429.0	70.7	72.8	35.7	89.4	109.6	15.4	35.4	13,493.3	31.5
Sales and service	3,932.0	460.5	970.8	411.0	561.7	1,131.7	199.2	197.0	122,700.3	31.2
Trades, transport and equipment operators	2,180.9	45.0	108.2	80.0	210.3	1,171.1	240.7	325.7	89,263.2	40.9
Occupations unique to primary industry	534.7	33.3	46.8	29.8	25.2	152.7	48.1	198.8	24,122.4	45.1
Processing, manufacturing and utilities	1,257.4	15.3	37.3	29.4	116.5	885.2	131.3	42.4	49,700.2	39.5

Source: Labour Force Survey, annual averages

**While overtime workers in the goods sector tended to be paid for their extra hours, most workers in the service sector were not paid for any extra hours.**

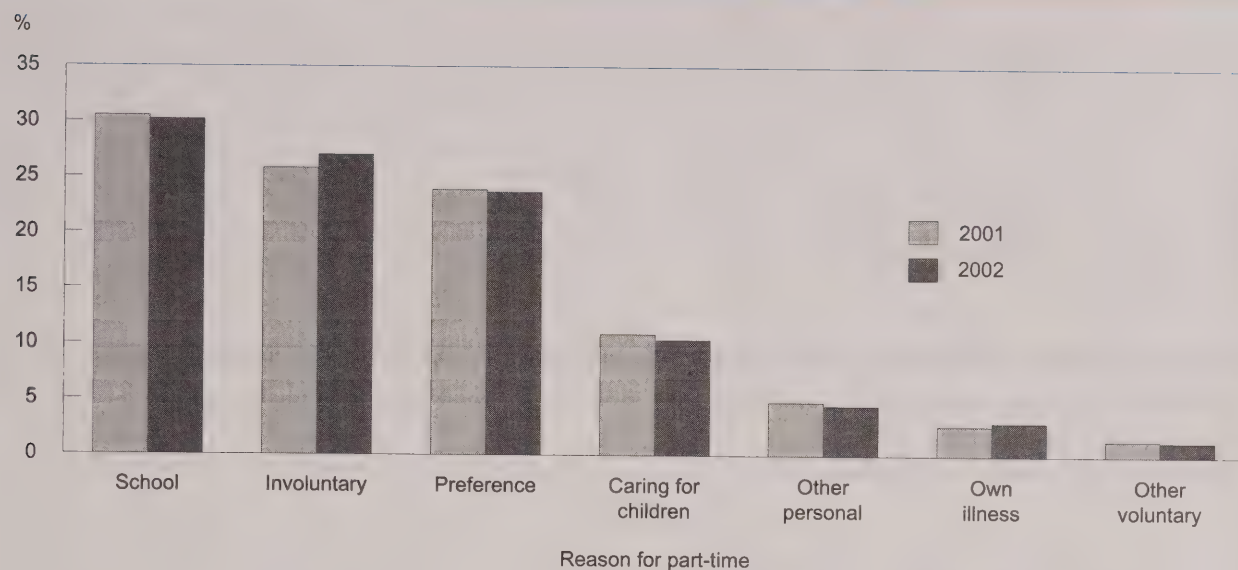
	Employees at work		Proportion of workers putting in overtime					
			2002			Change, 2001 to 2002		
	Total	Overtime	Total	Paid	Unpaid	Total	Paid	Unpaid
	'000			%		%-point		
<b>Total</b>	<b>12,008.1</b>	<b>2,656.2</b>	<b>22.1</b>	<b>10.4</b>	<b>12.5</b>	<b>1.6</b>	<b>0.6</b>	<b>1.1</b>
<b>Industry</b>								
Agriculture	112.2	12.3	11.0	5.8	4.6	-1.1	-0.7	-0.6
Forestry, fishing, mining, oil and gas	207.1	64.3	31.0	19.0	13.3	2.2	-0.1	2.6
Utilities	119.6	39.1	32.7	17.3	17.1	6.1	0.3	6.2
Construction	565.4	117.6	20.8	15.7	5.8	0.4	0.5	-0.1
Manufacturing	2,065.7	569.1	27.5	19.6	8.6	2.4	2.1	0.3
Trade	1,994.6	309.9	15.5	7.1	9.0	0.7	0.2	0.5
Transportation and warehousing	571.6	125.7	22.0	14.5	8.3	0.8	0.6	0.5
Finance, insurance, real estate and leasing	701.4	166.7	23.8	5.4	19.0	1.3	-0.6	1.9
Professional, scientific and technical services	623.0	184.7	29.6	9.4	21.3	2.5	0.7	1.8
Management, administrative and other support	412.1	66.8	16.2	8.9	7.8	2.3	0.9	1.3
Educational services	829.4	306.8	37.0	3.1	34.6	2.3	0.6	2.0
Health care and social assistance	1,254.6	233.4	18.6	8.7	11.1	2.1	0.8	1.5
Information, culture and recreation	560.0	118.2	21.1	8.2	13.7	1.5	-0.1	1.7
Accommodation and food services	857.0	84.7	9.9	5.5	4.9	0.4	0.1	0.4
Other services	431.8	79.1	18.3	7.6	11.2	1.3	0.0	1.3
Public administration	702.8	178.0	25.3	10.0	16.8	2.0	0.2	1.9
<b>Occupation</b>								
Management	815.2	338.6	41.5	4.0	38.5	3.2	-0.2	3.5
Business, finance and administrative	2,323.1	449.8	19.4	7.5	12.6	1.4	0.1	1.4
Natural and applied sciences	832.5	253.2	30.4	13.0	18.8	1.2	0.8	0.6
Health	660.1	130.3	19.7	11.5	9.7	1.7	0.5	1.4
Social science, education, government service and religion	845.7	338.5	40.0	3.8	37.2	3.2	0.3	3.0
Art, culture, recreation and sport	256.4	55.2	21.5	7.9	14.8	0.3	-0.3	0.9
Sales and service	3,254.8	394.2	12.1	6.2	6.5	0.8	0.3	0.6
Trades, transport and equipment operators	1,664.9	386.4	23.2	20.0	3.9	1.4	1.1	0.4
Occupations unique to primary industry	238.6	40.6	17.0	12.7	5.0	0.1	0.1	0.1
Processing, manufacturing and utilities	1,116.9	269.5	24.1	21.8	2.9	2.9	2.6	0.3

Source: Labour Force Survey, annual averages

Note: Some workers do both paid and unpaid overtime in the same week.



In 2002, the percentage of workers who involuntarily worked part time increased slightly, but decreased for people who worked 'short' hours because they were going to school.



Source: Labour Force Survey, annual averages

2002	Part-time total	Voluntary part-time						Involuntary part-time		
		Own illness	Caring for children	Other personal	School	Preference	Other	Total	Looked for full-time	Did not look for full-time
	'000	%								
<b>Total</b>	<b>2,883.7</b>	<b>3.0</b>	<b>10.4</b>	<b>4.5</b>	<b>30.2</b>	<b>23.7</b>	<b>1.3</b>	<b>27.0</b>	<b>8.2</b>	<b>18.8</b>
Youths (15 - 24)	1,074.7	0.5	1.1	0.7	73.5	4.8	0.4	19.0	7.0	12.0
Men	461.8	0.4	0.0	0.5	75.1	4.8	0.3	18.5	7.3	11.2
Women	612.9	0.4	1.9	0.8	72.3	4.8	0.4	19.4	6.8	12.6
Adults 25 +	1,809.0	4.4	15.9	6.7	4.4	34.9	1.9	31.8	8.8	22.9
Men	438.2	6.2	1.6	2.3	6.8	37.8	2.8	42.4	14.4	28.1
Women	1,370.8	3.9	20.4	8.2	3.7	33.9	1.6	28.3	7.1	21.3

Source: Labour Force Survey, annual averages

**Female employees earned 82 cents for every dollar earned by men in 2002, virtually unchanged from the year before.**

	Hourly wage in 2002				Change from 2001			
	Both sexes	Men	Women	Ratio	Both sexes	Men	Women	Ratio
	\$				\$			
15 +	17.66	19.38	15.82	0.82	0.48	0.43	0.53	0.01
15 - 24	10.06	10.58	9.52	0.90	0.16	0.15	0.18	0.00
25 - 54	19.25	21.12	17.28	0.82	0.54	0.44	0.65	0.01
55 +	19.24	21.76	16.19	0.74	0.52	0.71	0.27	-0.01

Source: Labour Force Survey, annual averages

**By industry, employees in utilities made the most. Among all the major occupation groups, managers remained the best paid.**

	Hourly wage				Weekly wage			
	2001	2002	Change		2001	2002	Change	
	\$				\$			
<b>Total</b>	<b>17.18</b>	<b>17.66</b>	<b>0.48</b>	<b>2.8</b>	<b>634.30</b>	<b>650.10</b>	<b>15.80</b>	<b>2.5</b>
<b>Industry</b>								
Agriculture	11.01	11.08	0.07	0.6	421.85	432.34	10.49	2.5
Forestry, fishing, mining, oil and gas	21.32	22.68	1.36	6.4	927.27	985.73	58.46	6.3
Utilities	25.23	26.29	1.06	4.2	960.97	1,003.87	42.90	4.5
Construction	18.57	19.04	0.47	2.5	753.74	769.66	15.92	2.1
Manufacturing	18.02	18.40	0.38	2.1	717.66	731.94	14.28	2.0
Trade	13.19	13.43	0.24	1.8	471.55	477.65	6.10	1.3
Transportation and warehousing	17.75	18.16	0.41	2.3	708.15	725.18	17.03	2.4
Finance, insurance, real estate and leasing	19.01	19.75	0.74	3.9	703.88	731.36	27.48	3.9
Professional, scientific and technical services	21.70	22.31	0.61	2.8	834.76	856.55	21.79	2.6
Management, administrative and other support	13.02	13.24	0.22	1.7	470.00	481.59	11.59	2.5
Educational services	21.93	22.70	0.77	3.5	733.29	762.04	28.75	3.9
Health care and social assistance	17.76	18.60	0.84	4.7	593.40	618.62	25.22	4.3
Information, culture and recreation	17.65	17.37	-0.28	-1.6	639.98	617.97	-22.01	-3.4
Accommodation and food services	9.74	9.94	0.20	2.1	303.52	305.22	1.70	0.6
Other services	14.36	14.56	0.20	1.4	525.59	533.30	7.71	1.5
Public administration	22.08	23.21	1.13	5.1	787.48	816.39	28.91	3.7
<b>Occupation</b>								
Management	26.51	27.68	1.17	4.4	1,072.05	1,117.25	45.20	4.2
Business, finance and administrative	16.48	17.05	0.57	3.5	591.53	613.15	21.62	3.7
Natural and applied sciences	24.82	25.32	0.50	2.0	962.40	979.79	17.39	1.8
Health	19.77	20.77	1.00	5.1	661.34	688.95	27.61	4.2
Social science, education, government service and religion	23.34	24.10	0.76	3.3	807.08	834.49	27.41	3.4
Art, culture, recreation and sport	16.80	17.41	0.61	3.6	568.22	579.47	11.25	2.0
Sales and service	11.80	12.00	0.20	1.7	391.98	395.63	3.65	0.9
Trades, transport and equipment operators	17.51	17.82	0.31	1.8	710.00	721.72	11.72	1.7
Occupations unique to primary industry	14.37	14.45	0.08	0.6	617.71	620.44	2.73	0.4
Processing, manufacturing and utilities	15.43	15.63	0.20	1.3	613.64	621.02	7.38	1.2

Source: Labour Force Survey, annual averages

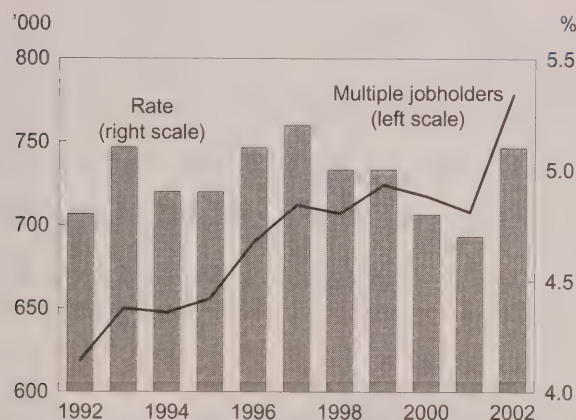


### The largest drop in the ratio of unionized employees to all employees was in utilities.

	2002			Change, 2001 to 2002		
	Total employees	Employees covered by union contract		Total employees	Employees covered by union contract	
	'000	%		'000	%	
<b>Total</b>	<b>13,065.8</b>	<b>4,200.9</b>	<b>32.2</b>	<b>298.2</b>	<b>91.8</b>	<b>0.0</b>
Public sector	2,908.0	2,205.6	75.8	86.2	85.6	0.7
Private sector	10,157.8	1,995.3	19.6	212.0	6.2	-0.4
Agriculture	118.6	4.7	4.0	-0.9	-0.3	-0.2
Forestry, fishing, mining, oil and gas	227.0	59.6	26.3	-18.6	-6.9	-0.8
Utilities	131.2	88.6	67.5	8.5	3.2	-2.1
Construction	605.5	203.3	33.6	34.2	9.3	-0.4
Manufacturing	2,231.4	723.3	32.4	57.6	7.4	-0.5
Trade	2,129.7	299.6	14.1	49.9	-4.0	-0.5
Transportation and warehousing	627.9	274.7	43.7	-9.8	-6.2	-0.3
Finance, insurance, real estate and leasing	763.5	81.9	10.7	14.7	0.5	-0.1
Professional, scientific and technical services	665.1	37.8	5.7	1.8	0.5	0.1
Management, administrative and other support	438.1	65.9	15.0	22.4	6.1	0.7
Educational services	968.4	714.7	73.8	48.2	38.5	0.3
Health care and social assistance	1,412.2	798.3	56.5	52.9	28.0	-0.1
Information, culture and recreation	601.8	164.4	27.3	-6.8	-6.2	-0.7
Accommodation and food services	907.4	72.9	8.0	29.9	4.5	0.2
Other services	460.0	50.1	10.9	2.7	3.6	0.7
Public administration	777.9	561.0	72.1	11.5	13.6	0.7

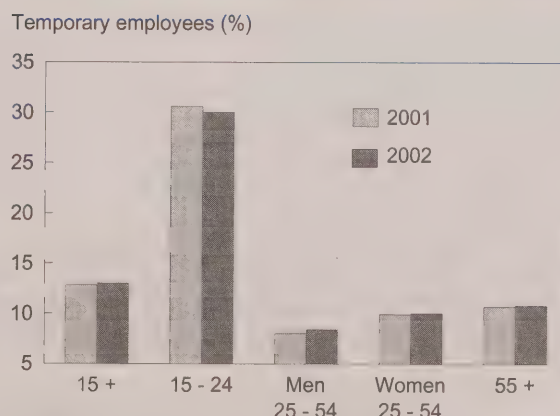
Source: Labour Force Survey, annual averages

Over the 1990s, the number of 'moonlighters' increased; however, their share of total employment remained around 5%.



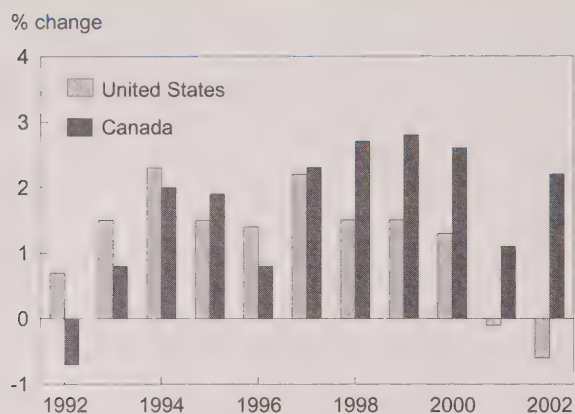
Source: Labour Force Survey, annual averages

About 13% of all employees worked on a temporary basis. For youths, the proportion was more than twice as high.



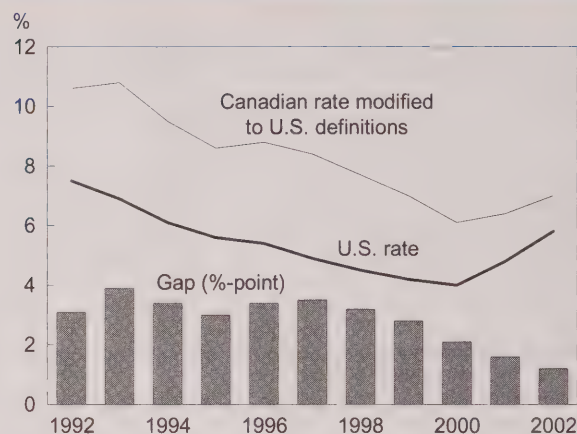
Source: Labour Force Survey, annual averages

### In 2001 and 2002, employment grew in Canada but fell in the United States.



Sources: Labour Force Survey, U.S. Current Population Survey, annual averages

### The gap between the harmonized unemployment rates narrowed considerably in 2002.



Sources: Labour Force Survey, U.S. Current Population Survey, annual averages

Note: For more information on modifications to the Canadian unemployment rate, see Labour Force Update (Statistics Canada, Catalogue no. 71-005-XPB) Autumn 1998.

### Supplementary measures of unemployment and percentage-point change from 1998 to 2002

	Annual averages			Change	
	1998	2001	2002	1998 to 2002	2001 to 2002
	%			% -point	
R1 – Only those unemployed one year (52 weeks) or more	1.1	0.6	0.7	-0.4	0.1
R2 – Only those unemployed 3 months (12 weeks) or more	3.2	2.2	2.6	-0.6	0.4
R3 – Made comparable to the U.S. definition	7.7	6.4	7.0	-0.7	0.6
<b>R4 – Official rate</b>	<b>8.3</b>	<b>7.2</b>	<b>7.7</b>	<b>-0.6</b>	<b>0.5</b>
R5 – R4 plus discouraged searchers	8.8	7.4	7.9	-0.9	0.5
R6 – R4 plus those waiting for recall or replies and long-term future starts	9.0	7.8	8.3	-0.7	0.5
R7 – A measure of both unemployment and underemployment (involuntary part-time) expressed in full-time equivalents for recall, replies and long-term future starts	11.2	9.4	10.1	-1.1	0.7
R8 – R4 plus discouraged searchers, those waiting for recall or replies, long-term future starts and the underused portion of involuntary part-timers	12.0	10.2	10.8	-1.2	0.6

Source: Labour Force Survey

These charts and tables are part of *The labour market: Year-end review*, in this issue. For more information, contact Geoff Bowlby, Labour Statistics Division, at (613) 951-3325 or [geoff.bowlby@statcan.ca](mailto:geoff.bowlby@statcan.ca).





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## ■ Articles

### 7 Benefits of the job

*Katherine Marshall*

Two-thirds of employees are offered at least one employer-sponsored insurance—extended medical, dental, or life/disability. Many employers offered other benefits as well: pensions or retirement savings plans; profit-sharing or stock-ownership plans; wellness or employee assistance programs; or other ad hoc benefits. These benefits are strongly associated with other indicators of 'good' jobs.

### 15 Benefiting from extended parental leave

*Katherine Marshall*

One purpose of the 2000 amendment to the Employment Insurance program was to enable working parents to care for a newborn for a longer time and still allow them secure re-entry into the labour market. This article examines the labour market activity of mothers before and after the changes.

### 22 New maternity and parental benefits

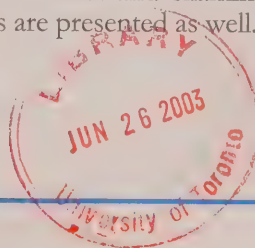
*Dominique Pérusse*

Have new parents responded to recent changes to the maternity, parental and adoption benefits available under the Employment Insurance program? A look at some statistics compiled from Human Resources and Development Canada data.

### 26 Taking stock of equity compensation

*Jacqueline Luffman*

Stock options garnered many headlines during the recent high-tech boom and bust, but equity compensation is not new. This article describes several forms of stock purchase plans provided by employers in Canada and examines participation in them. Some U.S. statistics are presented as well.



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## 34 Volunteering on company time

*Jacqueline Luffman*

In spite of having busy lives, employed Canadians are actively involved in volunteering—even more so than retirees and others with supposedly more time on their hands. And if given employer support, employed volunteers are likely to devote more hours to their efforts.

## 41 Health-related insurance for the self-employed

*Ernest B. Akyeampong and Deborah Sussman*

Compared with employees, the self-employed are less likely to be covered by extended health, dental or disability insurance plans. Some self-employed acquire coverage through a spouse or close relative; others must pay or do without.

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# Forum

■ For generations labour analysts have been interested in the factors that determine a worker's wages. When blue-collar work was foremost in the labour force, the dominant wage hypothesis was compensating differentials—supply factors being equal, workers would have to be paid more to do heavy, dirty, or dangerous work. This provided a ready explanation for the high wages of miners, fishermen and high steel construction workers. However, its usefulness waned as the white-collar workforce mushroomed in the second half of the 20th century.

With brains surpassing brawn in the labour market, a new theory of wage determination surfaced in the 1960s. Gary Becker coined the phrase 'human capital' to describe factors such as education, experience and technical know-how that people accumulate and are rewarded for in the labour market. As with physical capital, people are said to invest in their human capital and earn returns on those investments. This notion is so compelling and easily understood that it has come to be regarded as common sense rather than theory.

But compensation is more than wages. Although money is a strong motivating force for the human species, workers do not typically auction their services to the highest bidder every week or month as might be expected from classical market theory. Employers and employees reap benefits from stability, and a variety of non-wage benefits encourage longer-term relationships. Pension plans and various forms of employer-sponsored insurance cultivate employee loyalty and provide companies a means through which to share the benefits of that loyalty.

Other forms of non-wage compensation are more directly related to short-term performance. Individual incentives, such as commissions and performance bonuses, have a long history and provide the bulk of

compensation in some industries and occupations. More recent innovations tie some portion of compensation to group or company-level performance. This category includes stock-based compensation, profit sharing and a scattering of bonuses related to different indicators of group performance (for example, skill, quality or productivity).

Still other non-wage benefits have arisen in response to the changing composition of the workforce, particularly the increasing participation of women. Employment Insurance now covers up to a year's benefits for new parents, and many employers provide 'top-ups' for at least some of that period. Employers are also increasingly supporting the volunteer activities of their employees—a practice that brings 'social capital' into the employer-employee relationship.

According to private-sector research, benefits now constitute a third or more of labour costs. At this level of expenditure, interest in benefits is growing in business schools, among human resource professionals, and in the traditional academic fields such as labour economics and industrial relations. A bumper crop of new hypotheses is springing up from these efforts, stimulating the demand for statistical information on employment benefits. This issue of *Perspectives* provides a sampling of Statistics Canada information on benefits and will perhaps spur further analysis of these sources.

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# Highlights

## *In this issue*

### ■ Benefits of the job

... p. 7

- In 2000, 62% of employees were offered at least one employer-sponsored insurance—extended medical, dental or life/disability. Half were offered all three.
- Almost half of employees (46%) were covered by an employer-sponsored pension plan; less than 1 in 10 were offered a stock purchase or profit sharing plan.
- The most common ‘family-friendly’ workplace benefits included employee assistance programs and fitness and recreation facilities, offered to 28% and 14% of employees respectively.
- Good jobs went hand in hand with access to non-wage benefits. Employees in high-paying, unionized, full-time or permanent jobs were much more likely to have access to all types of non-wage benefits.
- The cost of mandatory non-wage benefits for employers (Employment Insurance, Canada/Quebec Pension Plan, and workers’ compensation) increased from 5% of payrolls in 1961 to 12% in 1998. The cost of discretionary benefits (employer-sponsored insurance, pensions, paid leave, profit and stock option plans) also rose, helping to push the cost of non-wage benefits from 23% to 36% between 1961 and 1998.

### ■ Benefiting from extended parental leave

... p. 15

- After the extension of parental benefits from 10 to 35 weeks, employed mothers in receipt of benefits increased (or planned to increase) their time away from work from 6 months in 2000 to 10 months in 2001.
- One-quarter of all mothers with benefits in 2001 were back to work within 8 months. These women were more likely to have a non-permanent or low-paying job, or a spouse who claimed parental benefits.
- Time taken off work by mothers who did not receive maternity or parental benefits and returned to work remained at four months for 2001.
- More new mothers received maternity or parental benefits in 2001 than in 2000 (61% versus 54%)—likely because of the reduced number of hours required for benefits and women’s increased labour force participation.
- After the extension of parental benefits, fathers’ participation in the program jumped from 3% in 2000 to 10% in 2001.

### ■ New maternity and parental benefits

... p. 22

- Between 2000 and 2002, the average number of women receiving EI maternity benefits each month increased from 49,700 in 2000 to 53,900 in 2002, an 8.5% increase.

## ■ Taking stock of equity compensation

... p. 26

- According to the 1999 Workplace and Employee Survey, about 816,000 or 10% of employees had a stock purchase plan.
- Over a third of employees in the computer and telecommunications (CT) sector had a stock purchase plan in 1999.
- The median hourly wage of stock purchase plan participants was \$22, about \$7 more than those with no plan. Overall, the prevalence of stock purchase plans rose with wages and salaries.

## ■ Volunteering on company time

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- Just over half of all volunteers in Canada in 2000 had a paid job.
- While the overall number of volunteers diminished between 1997 and 2000, the proportion with employer support rose. In 2000, some 1.7 million employed volunteers (about half of all employed volunteers) received at least one form of support.
- Certain types of employer support for volunteering were more common than others: use of workplace facilities (57%), time off (57%), and change in work hours to accommodate volunteering (54%).
- A high proportion of unionized volunteers reported use of facilities as the most common type of employer support (63%), whereas non-unionized volunteers reported time off work (61%).

## ■ Health-related insurance for the self-employed

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- Unlike employees, the self-employed cannot benefit from employer-sponsored extended health, dental or disability insurance plans. Not surprisingly then, only 17% of the self-employed had all three types of coverage in 2000, compared with 50% of employees.

- About half of the self-employed with health or dental coverage acquired it through the employer-sponsored plan of a spouse or close relative; another quarter through direct purchase, using their own financial resources.
- Approximately 4 in 10 self-employed workers had no coverage in any plan in 2000.
- Lack of money was cited by approximately 40% of the self-employed as the major reason for non-coverage in each type of insurance. Coverage in all plans was much higher for those with high earnings (\$60,000 or more).

## ■ What's new?

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### ■ Just released

*Finding their way: A profile of young Canadian graduates*

*Earnings of Canadians, 2001 Census*

*A profile of employment in computer and telecommunications industries*

*Life after welfare: The economic well-being of welfare leavers in Canada during the 1990s*

*A frontier approach to Canada-United States multifactor productivity performance*

*New evidence on the determinants of training in Canadian business locations*

*Income of individuals, families and households, 2001 Census*

### Perspectives



# Benefits of the job

Katherine Marshall

**P**RIOR TO WORLD WAR I, most employees were paid no more than a straight-time hourly wage. The economic consequences of sickness, accident, or job loss were almost entirely the responsibility of the individual worker (Bauman 1970). Since the 1920s, however, significant economic, social and demographic trends have spurred the creation of many legislated and discretionary non-wage benefits. For example, the economic hardship of the Great Depression helped bring about a mandatory national unemployment insurance program. Inflation and high labour demand during the Second World War prompted employers to offer 'non-inflationary' compensation such as paid vacations, insurance and pensions (Stelluto and Klein 1990). At the same time, a strong and growing labour union movement helped improve wages and benefits for its members.

As non-wage compensation has evolved, employers have needed to remain competitive, enticing and retaining skilled employees with not only wages, but non-wage benefits as well. Are workers who receive non-wage benefits also likely to receive high monetary remuneration? That is, does inequality of benefits parallel inequality of earnings—reinforcing the notion of 'good' and 'bad' jobs?

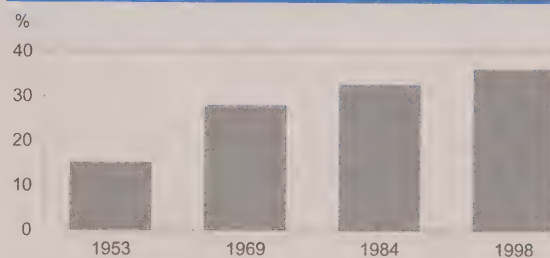
Some non-wage benefits are mandatory, others discretionary. Employers are legally obligated to contribute to Employment Insurance, Canada and Quebec Pension Plans, and workers' compensation—collectively referred to as payroll taxes (Lin 2000).<sup>1</sup> Many employers also offer discretionary non-wage benefits, which vary in cost. These include paid vacation; sick and other leave; employer-sponsored medical, dental, life and disability insurance; retirement pension or savings plans; profit-sharing and stock-ownership plans; wellness and employee assistance programs; and other

ad hoc benefits. Overall, non-wage benefits costs have risen over the past half century and now account for over one-third of total labour costs (Chart A).

More recent trends in non-wage benefits have emerged partly because of demographic changes in the labour force. One significant change has been the increase in dual-earner families, a factor that has led to the creation of an array of benefits catering to the needs of workers and their families. These benefits include on-site or similar child care, leave for care of children or parents, on-site fitness centres, and employee-assistance programs (see *Family-friendly practices*).

Wage and non-wage compensation are often used as indicators of job quality. However, other non-monetary job benefits can add to the quality of work, including workplace safety and cleanliness, job security,<sup>2</sup> type of work performed, and schedule flexibility. These benefits cannot be assessed financially, and rating quality is difficult since scoring is subjective.

**Chart A: Employee non-wage benefits\* now account for over one-third of total labour costs.**



Source: KPMG LLP: Survey of Employee Benefits Costs in Canada  
\* Includes mandatory employer contributions (EI, CI/QPP, workers' compensation) as well as retirement plans; medical, disability, and life insurance; pay for time not worked; and severance pay. Other less common discretionary benefits such as on-site child care or fitness centres are excluded.

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## Family-friendly practices

The steady rise in the number of dual-earner and lone-parent families, as well as families with aging parents, has created a need for employers to help workers balance and manage their work and family lives. Thus, there has been an increase in programs offering child care and elder care support. Non-work stress from family and other responsibilities has also led to the development of programs that help to keep workers mentally and physically healthy—such as counselling services through employee assistance, or exercise classes at on-site fitness centres. Although employers are often looking for ways to cut costs, adding family-friendly support programs can be cost-effective since they have the potential to increase worker morale and productivity as well as to reduce absenteeism caused by family and personal problems.

Findings from the Workplace and Employee Survey (WES) show that in 1999 almost one-third of employees were offered some type of personal or family support program or service (Table). The two most common were employee assistance (28%) and fitness and recreation (14%). Of employees offered these benefits, 9% used employee assistance at least once in the past year, and 37% used a fitness-related program. The high fitness participation rate means some 570,000 workers exercise through work, suggesting an emerging trend of taking not only a briefcase to work, but a gym bag as well. Only 6% of employees were offered on-site child care or assistance with external suppliers, and 4% were offered elder care. Unlike job-related, non-wage benefits such as employer-sponsored insurances and pension plans, where coverage differences are greater between women and men, employer-sponsored personal and family support programs are more evenly dispersed. The key factor is that family-friendly programs occur at the level of the workplace. Therefore, benefits such as a fitness centre are more likely to be offered to all levels of wage earners and to all

occupational groups, including part-time and full-time workers alike. That said, a slightly higher percentage of men were offered at least one support program at work (33% versus 29%), implying differences in the mix of employees at workplaces that offer these programs.

### Employees by availability of personal and family support programs

	Both sexes	Men	Women
	'000	%	%
<b>Total</b>	<b>10,778</b>	<b>100</b>	<b>100</b>
Offered at least one program	3,374	31	29
On-site child care or related	653	6	6
Used program*	37	6	5
Employee assistance (counselling)	2,996	28	30
Used program*	268	9	9
Elder care	383	4	4
Used program*	33	F	F
Fitness and recreation	1,548	14	13
Used program*	567	37	34
Other, unspecified	310	3	3
Used program*	124	40	40

Source: Workplace and Employee Survey, 1999

\* Refers to use at any time in the past year.

Non-wage benefit compensation may now be commonplace, but is it common to *all* employees? Using the 2000 Survey of Labour and Income Dynamics (SLID), and other information on job quality, this paper examines employee non-wage benefit coverage rates by a number of personal and job characteristics (see *Data sources and definitions*).

### Six in 10 have at least extended medical

Data on employer-sponsored extended medical, dental, and life/disability insurance show a dichotomy between employees with all three types of insurance (50%) and those with none (38%) (Table 1). For the few (4%) with only one, most had access to extended medical (2%). Another 9% had two, and again the majority (8%) had extended medical. Clearly, insurance benefits appear to come as a package deal.

Similarly, almost 4 in 10 self-employed workers had no coverage under any of these insurance plans (Akyeampong and Sussman 2003).

Employer-sponsored retirement plans come in three types: registered pension plans (RPPs), group registered retirement savings plans (group RRSPs), and deferred profit-sharing plans (DPSPs) (see *Data sources and definitions*). All are designed to replace some level of employment income upon retirement. RPPs, also known as private pensions, have existed for decades and are by far the most popular plan type. Annual RPP membership is measured by the Pension Plans in Canada Survey. In 1999, 5.3 million members (41% of all employees) belonged to 15,557 plans. Similarly, SLID found that 43% of employees in 1999 and 46% in 2000 reported being covered by an RPP (Table 1).<sup>3</sup> SLID also revealed that only 2% of employees



**Table 1. Employer-sponsored non-wage benefits**

	'000
<b>Employees</b>	<b>13,721</b>
<b>Insurance</b>	<b>%</b>
No coverage	38
One	4
Extended medical only	2
Dental only	1
Life/disability only	1
Two	9
Medical and dental	4
Medical and life/disability	4
Dental and life/disability	1
All three	50
<b>Retirement plans</b>	
No pension plan	52
Registered pension (RPP)	46
Group registered retirement savings plan (Group RRSP)	2
<b>Other</b>	
Stock-purchase plan	9
Profit-sharing plan	8
Low-interest loans	5
Other benefits	10

Source: Survey of Labour and Income Dynamics, 2000

reported having an employer-sponsored group RRSP to which the employer contributed. And 63% of those with a group RRSP worked in a small- or medium-sized firm (fewer than 100 employees), compared with only 45% of RPP members.

Another 9% of employees had the opportunity to participate in a stock-purchase or stock-option plan. This relatively new non-wage benefit grants employees the right to buy company stock at a specified price for a specified period of time. The rules and regulations of these plans can vary widely (Luffman 2003).

About 1 in 12 employees also had the chance to participate in a profit-sharing plan, which in addition to earnings provides financial compensation based on the employer's

annual profit. Payment and taxation may be immediate, or deferred and held in trust funds (see *Data sources and definitions*).

Finally, a small percentage of employees (5%) had access to low-interest loans, and 10% said their employer offered them at least one other important non-wage benefit (not specified). Given that some non-wage benefits are more prevalent than others, the remainder of this article examines coverage rates of employees with all three insurances, and those covered by RPPs, stock options and profit-sharing plans.

### Full-time, permanent and unionized workers have benefit advantage

A number of job characteristics are linked with the incidence of having access to non-wage benefits. For example, roughly 1 in 6 employees working a non-standard work arrangement—part-time or temporary—had all three insurances or RPP coverage, compared with more than half of all full-time and permanent workers (Table 2). These findings support the view that increased competition may lead some employers to purposely use peripheral workers in order to reduce labour costs (Schellenberg 1997).

Also, working in a unionized job not only boosts wages and job security, but also improves access to the more common non-wage benefits of insurance and pension coverage (Fang and Verma 2002). This is partly the result of successful collective bargaining. For example, 79% of unionized employees had an RPP, compared with 30% of the non-unionized. However, the story differs for access to stock options and profit-sharing plans,

which was roughly the same for unionized and non-unionized employees alike. Other studies have suggested that 'ownership' benefits have been used by employers to avoid unionization. Similarly, unions themselves have been wary of these types of non-wage benefits, believing that they may be offered in lieu of wage hikes (Coates 1991).

Stock-option and profit-sharing plans were also found predominantly in the private sector, with only 2% of public-sector employers (which include crown corporations) offered this type of non-wage benefit. Stock-option plans in particular are concentrated in the high-tech industry (Luffman 2003); 18% of workers in the finance, professional and managerial services industry had access to this benefit, as did 22% of workers in natural and applied science jobs (data not shown). Although both the public and private sector had equivalent rates of job permanency, public servants were much more likely to be covered by insurance (67% versus 45%) and RPPs (79% versus 38%).

Working for a large company also increased the likelihood of receiving non-wage benefits—71% of those employed in a firm with 100 or more had an RPP, compared with only 21% of those working for a small firm (fewer than 20 employees). Higher unionization rates among larger firms and relatively lower non-wage administration costs (due to economies of scale) are two possible reasons behind these differences (Akyeampong 2002).

The greater the number of years employed in the current job (tenure), the higher the rate of access to all non-wage benefits. Longer-term employees also had higher rates of job permanency and greater earnings.

For the one million workers in the accommodation and food services industry, median hourly earnings were the lowest (\$7.60), as were non-wage benefit coverage rates—13% for insurance and 10% for RPPs. In contrast, public administration had an insurance coverage rate of 69%, a RPP rate of 82%, and a median hourly earnings rate of \$20.20. Other industries with insurance and pension plan coverage rates at least 10 percentage points below the average were wholesale and retail trade, construction, and primary (agriculture, forestry, fishing and mining).

### Younger, less educated have fewer perks

Generally, employees were considerably less likely to have access to non-wage benefits if they were young or single, or had a high school education or less. For example, only 17% of workers aged 16 to 24 were covered by all three insurances (medical, dental, life/disability), compared with 48% or higher for those in all older age groups (Table 3).<sup>4</sup> Furthermore, on average, younger workers had considerably less job security than those 25 and over (62% held permanent jobs versus at least 82%) and lower median earnings (\$8.30 per hour versus \$15.40 or more). Not unexpectedly, the higher the education level and the more the work experience, the greater the benefit coverage rate. For example, only one-third of those with less than high school education had access to retirement and insurance plans, compared with two-thirds of university graduates. Furthermore, those with the highest level of education earned more than twice as much as those with the lowest level (\$23.00 versus \$10.50).

**Table 2: Job characteristics of employees by wages, job permanency and selected non-wage benefits**

	Total	Median hourly wage	Permanent job	Non-wage benefits			
				Insurance*	Retirement	Stock options	Profit sharing
	'000	\$		%			
<b>Total</b>	<b>13,721</b>	<b>15.00</b>	<b>83</b>	<b>50</b>	<b>46</b>	<b>9</b>	<b>8</b>
<b>Work status</b>							
Full-time	10,864	16.20	87	58	52	11	9
Part-time	2,318	9.00	66	17	22	3	3
<b>Job security</b>							
Permanent	11,325	16.00	100	57	52	11	9
Temporary	2,277	10.30	...	14	19	2	2
<b>Union status</b>							
Unionized**	4,352	19.00	87	70	79	8	6
Non-unionized	9,049	13.00	81	40	30	10	9
<b>Sector</b>							
Private	10,950	13.70	83	45	38	11	9
Public	2,771	20.00	81	67	79	2	2
<b>Size of company</b>							
Under 20	4,541	11.80	78	27	21	4	4
20 to 99	4,027	15.00	85	52	46	8	7
100 or more	4,792	18.80	87	71	71	17	12
<b>Job tenure (months)</b>							
Less than 12	2,915	10.00	57	22	19	5	4
12 to 47	4,878	13.70	84	45	39	9	7
48 to 119	2,352	16.60	92	58	51	11	10
120 or longer	3,571	20.20	95	73	75	13	10
<b>Industry</b>							
Primary	422	14.20	70	40	34	11	8
Construction	683	17.00	69	38	35	F	4
Manufacturing	2,167	16.50	90	63	56	16	15
Trade	2,102	10.00	84	36	28	9	9
Transportation	597	16.90	88	63	56	14	8
Finance, professional and management services	1,890	15.30	83	55	42	18	13
Education and health	2,324	18.00	82	57	65	F	1
Accommodation and food	975	7.60	78	13	10	F	F
Public administration	811	20.20	81	69	82	F	F
Other	1,280	14.40	78	43	41	13	7
<b>Hourly earnings</b>							
Less than \$10.00	3,332	7.50	70	13	12	3	3
\$10.00 to \$19.99	6,246	14.40	84	51	46	8	8
\$20.00 or more	4,122	25.40	91	77	74	17	12

Source: Survey of Labour and Income Dynamics, 2000

\* Extended medical, dental and life/disability.

\*\* Includes non-union members whose jobs are covered by collective agreements.



## Data sources and definitions

The **Survey of Labour and Income Dynamics (SLID)** is a longitudinal household survey that began in January 1993. Every three years, some 30,000 respondents aged 16 to 69 enter and remain in the survey for six years, completing two detailed questionnaires each year: one on labour market activity and another on income. Beginning in 1999, a number of new questions were added to determine the non-wage benefits of employees.

The **Workplace and Employee Survey (WES)**, which began in 1999, is a longitudinal survey of businesses, sampling up to 6,300 workplaces and 24,000 employees within them. All industries are covered except primary and public administration. WES covers a wide range of workplace issues, including employer wage and non-wage benefits. It is currently the only survey to ask about 'family-friendly' practices.

**Extended medical insurance** refers to employer-sponsored medical insurance or health plans that supplement public health-insurance coverage.

**Dental insurance** refers to employer-sponsored dental plans offering some level of dental care service. They can be stand-alone plans or comprehensive plans combining dental and extended medical benefits.

**Life and/or disability insurance** refers to employer-sponsored plans providing financial protection to families in the event of income loss from death or disability.

**Employer-sponsored pension plans** include registered pension plans (RPPs), group registered retirement savings plans (group RRSPs), and deferred profit-sharing plans (DPSPs). These plans are registered with the Canada Customs and Revenue Agency (CCRA) and must

follow standard tax and pension rules. The focus of this article is on RPPs. Although SLID does not differentiate, two main types of RPPs exist—defined-benefit plans and defined-contribution plans. Pension Plans in Canada data from 2000 show that 85% of RPP members belong to a defined-benefit plan (Statistics Canada 2001).

**Stock-purchase or stock-option plans** refer to the variety of schemes giving an employee the option to buy a certain number of shares in the company. For more information, see Luffman, 2003.

**Profit-sharing plans** enable an employee to benefit financially from their company's profits. Plans fall into three types: cash distribution profit-sharing plans; employee profit-sharing plans; and deferred profit-sharing plans, which are a type of employer-sponsored pension plan (see above). The first is the most common type of profit-sharing plan; it provides periodic cash payments and does not require registration with the CCRA. The remaining plans provide deferred compensation and taxation and are registered with the CCRA. A fourth type of profit-sharing scheme is a registered profit-sharing pension plan, which is an RPP and operates as such.

The **target population** for this paper includes all persons who did some paid work in 2000. All information regarding non-wage benefit coverage and job characteristics is derived from the respondent's main paid job in 2000. The main job is defined as the one with the most scheduled hours in the year. Respondents were asked only whether their employer offered the non-wage benefit, and not whether they took up the offer. Furthermore, no information is provided as to whether or not the employee had to pay for some of the cost of these benefits.

Although women and men had the same rate of job security, women had a median hourly wage of \$4 less per hour than men, and a somewhat smaller proportion had access to each type of non-wage benefit. Finally, not only did lone parents earn less per hour than married individuals (\$14.00 versus \$17.30), they were also less likely to have access to each type of non-wage benefit, including full insurance (50% versus 58%). For parents with dependent children, access to extended medical and dental plans can be very important. Generally, these findings show that workers with lower rates of non-wage coverage were also more likely to have lower median wages and less job security—confirming that stable, well-paying jobs tend to go hand in hand with extra non-wage compensation. Indeed, job characteristics largely determine non-wage compensation coverage rates, and not everyone (as the demographic data in Table 3 show) works in a 'good' job.

## More pay, more benefits

One factor plainly linked with access to non-wage benefits is earnings. Employees who made \$20 an hour or more at their job were much more likely than low earners (less than \$10 an hour) to have an insurance package (77% versus 13%), an RPP (74% versus 12%), stock options (17% versus 3%), or a profit-sharing plan (12% versus 3%). They were also more likely to have a permanent job (91% versus 70%). As earnings increased, the percentage of employees with access to all types of benefits rose steadily. For example, only 8% of those who earned less than \$7 an hour had extended medical, dental, and life/disability insurance, compared with 80% who made \$25 or more (Chart B). Furthermore, regression analysis confirmed earnings to be a major factor in determining whether an employee was entitled to full insurance.

**Table 3: Personal characteristics of employees by wages, job permanency and selected non-wage benefits**

	Total	Median hourly wage	Perma- nent job	Non-wage benefits			
				Insur- ance*	Retire- ment	Stock options	Profit sharing
	'000	\$			%		
<b>Total</b>	<b>13,721</b>	<b>15.00</b>	<b>83</b>	<b>50</b>	<b>46</b>	<b>9</b>	<b>8</b>
Men	7,105	17.00	83	54	49	11	10
Women	6,616	13.00	82	45	43	8	6
<b>Age</b>							
16 to 24	2,535	8.30	62	17	15	4	4
25 to 34	3,312	15.40	86	54	45	12	9
35 to 44	3,761	17.80	88	59	57	12	9
45 to 54	2,893	18.00	89	60	61	10	8
55 and over	1,219	16.20	82	48	47	6	4
<b>Education</b>							
Less than high school	1,939	10.50	77	32	30	4	4
High school	4,207	12.80	80	45	40	9	8
Postsecondary certificate	4,050	16.00	86	55	51	10	8
University	2,430	23.00	86	64	64	14	9
<b>Work experience (years)**</b>							
Less than 2	1,905	8.00	58	14	15	4	3
2 to 10	2,977	13.70	84	48	41	10	8
11 to 20	2,837	17.50	90	61	56	12	10
21 or more	3,435	19.00	92	65	64	12	9
<b>Family</b>							
Couple	8,099	17.30	88	58	55	11	9
Lone parent	627	14.00	86	50	47	8	7
Single	4,994	11.40	73	35	32	8	6

Source: Survey of Labour and Income Dynamics, 2000

\* Extended medical, dental and life/disability.

\*\* Includes all part- and full-time work since first starting work, and converted to full-time, full-year equivalents.

earned \$20 or more per hour were 6.1 times more likely to have full insurance, and 3.9 times more likely to have an RPP than those earning less than \$10 an hour.

Permanent employees also had significantly higher odds of having coverage than those in temporary jobs, as did full-time workers compared with part-timers. Also, the odds of coverage increased significantly with firm size, with workers in large firms (100 or more) being 3.5 and 4.1 times more likely to have insurance and pension coverage, respectively, than those in small firms (under 20).

Being in a unionized job was a determinant in insurance and pension coverage as well, whereas industry was not a strong factor. (The only industry to have significantly lower relative odds of receiving both full insurance and pension coverage was accommodation and food services.) The effect of unionization was particularly important in terms of pension coverage, where members were 4.9 times more likely to have access than non-members. A union advantage or differential has been found for all components of wage and non-wage compensation, but the greatest is in

## Regression ties insurance and RPP coverage to the job

A logistic regression model was used to single out the factors most affecting access to the two most common benefits: an insurance package (extended medical, dental and life/disability) and a registered pension plan. The models tested the effects of each variable on the probability of receiving either insurance coverage or an RPP, while holding all other variables constant. Most of the variables expected to affect the chances of having insurance coverage did so.<sup>5</sup>

The results show that earnings were highly significant (<.001 level) and had a large effect on the odds of having insurance and pension coverage. Those who

**Chart B: Eight in 10 of the highest earners had full insurance\* coverage.**

Source: Survey of Labour and Income Dynamics, 2000

\* Extended medical, dental and life/disability.



the category of 'private pension and other benefit plans' (Benjamin, Gunderson and Riddell 1998). Also, further calculations with SLID data show that 89% of unionized public-sector employees and 71% of private-sector unionized employees had an RPP, compared with only 52% of non-unionized public-sector and 29% of non-unionized private-sector employees. Although sector was important, unionization was more so for both insurance and pension coverage.

Finally, time in the current job (tenure) had a greater effect (higher relative odds) for pension than insurance coverage, although both were significant. Since pensions are a form of deferred compensation, employees may be less likely to quit or switch jobs because they would lose their entitlement (Benjamin, Gunderson and Riddell 1998).

Age and sex proved not to be significant factors in benefit access (see *Regression model*). Although the cross-tabulations showed differences in access rates by age groups, the overriding personal aspects proved to be years of work experience and educational attainment. Both these factors contribute to human capital, and it is argued that those who have more invested in their human capital are more likely to have better jobs, and therefore greater benefits and earnings.

The regression results confirm that non-wage benefit coverage rates in terms of RPP or full insurance coverage are linked with the characteristics of the job and with more accomplished employees. That is, coverage rates are positively related with well-paying, 'good' jobs (unionized, full-time, permanent, and found in large establishments) and with employees having higher levels of education and more years of work experience.

## Summary

Non-wage benefits originally emerged in response to, and continue to be affected by, social, economic and demographic issues. Today, employers routinely offer compensation packages beyond salaries and wages, and the trend is not likely to be reversed. Overall, in 2000, half of all employees received extended medical, dental, and life/disability insurance in their job; 46% were covered by a registered pension plan; just under 10% were offered a stock-purchase or profit-sharing plan; and in 1999, almost one-third were given access to at least one type of personal or family support program.

## Regression model

Explanatory variables (t)	Insurance <sup>1</sup>	Pension plan
<b>Personal characteristics</b>		<b>Odds ratios</b>
Men	1.0	0.9
Women	1.0	1.0
Age 16 to 24	1.0	1.0
25 to 34	1.4*	1.2
35 to 44	1.1	1.2
45 to 54	0.9	1.1
55 and over	0.7	0.8
Full-time/full-year experience		
< 2 years	1.0	1.0
2 to 10	1.7*	1.4*
11 to 20	1.9*	1.3
21 or more	2.0*	1.5*
Less than high school	1.0	1.0
High school	1.4*	1.3*
Postsecondary certificate	1.4*	1.5*
University	1.4*	1.8*
<b>Job characteristics</b>		
Full-time	3.1*	2.2*
Part-time	1.0	1.0
Permanent	4.4*	3.5*
Temporary	1.0	1.0
Unionized**	1.8*	4.9*
Non-unionized	1.0	1.0
Public	1.4*	2.2*
Private	1.0	1.0
Under 20 employees	1.0	1.0
20 to 99	2.4*	2.1*
100 or more	3.5*	4.1*
Tenure < 12 months	1.0	1.0
12 to 47	1.3*	1.5*
48 to 119	1.6*	2.0*
120 or longer	2.2*	3.4*
Primary industry	1.3	0.8
Construction	0.8	0.5*
Manufacturing	1.3	0.8
Trade	1.5	0.8
Transportation	2.0*	0.9
Finance, professional and management services	2.1*	0.9
Education and health	0.9	0.6*
Accommodation and food services	0.6*	0.4*
Public administration	1.0	1.0
Other	1.2	0.7
Wage rate <\$10.00	1.0	1.0
\$10.00 to \$19.99	2.9*	2.0*
\$20.00 or more	6.1*	3.9*

Source: Survey of Labour and Income Dynamics, 2000

Note: A multicollinearity diagnostic test of the models indicated that age and number of years of full-time, full-year work experience were correlated. When work experience is excluded from the model, age becomes significant; however, when both variables are included, only work experience is significant.

t Italic rows represent reference categories.

1 Extended medical, dental, life/disability.

\* Difference with the reference category significant at the <.001 level or less.

\*\* Includes non-union members whose jobs are covered by collective agreements.

Non-wage benefits are often used by companies to attract and retain good employees, and thereby remain competitive. The results here suggest that employers are striving to retain employees with wage and non-wage benefits combined—that is, high-paying jobs come with full benefits. Employees with good jobs (high-waged, unionized, full-time, and permanent) or in large firms, were much more likely to have access to all types of non-wage benefits than those without these job characteristics. Not surprisingly, workers with higher education levels and more work experience were more likely to be in these high-wage/high-benefit jobs. Conversely, certain groups of employees—for example, those with less than high school education and those in part-time, temporary or non-unionized jobs—are doubly disadvantaged with less access to non-wage benefits and lower hourly wages. Quite simply: the better the job, the better the benefit package.

### Perspectives

#### ■ Notes

- 1 The cost of payroll taxes to employers rose from 5% in 1961 to 11% in 2000.
- 2 Persons are said to have job security if they are in a permanent job. It is assumed that a permanent job is generally more secure than a temporary one, but job permanency does not necessarily prevent layoff.
- 3 Current group RRSP and DPSP memberships are not known from any source other than SLID. However, past research estimated group RRSP membership (with and without employer contributions) to be more than 700,000 in 1995, and it suggested that the numbers were growing. DPSPs were found to be 'less significant' than group RRSPs, in terms of both number of plans and membership (Frenken 1996).
- 4 Almost one in five of the paid workers in this study were students for some time in 2000, either full- or part-time. Some 63% of these employed students were under 25 and hence may not have been too interested in non-wage benefits, such as a company pension plan, and may even have sought short-term, non-permanent work. For them, lower-paying, non-benefit jobs may not be seen as a hardship. However, these distinctions cannot be made with the data, and so all persons with jobs, regardless of student status, were included.
- 5 Similar results were found in an analysis of health and dental insurance coverage using the 1995 Survey of Work Arrangements. For more information, see Reesor and Lipsett, 1998.

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# Benefiting from extended parental leave

Katherine Marshall

THE UNEMPLOYMENT INSURANCE ACT (EIA)<sup>1</sup> of 1940 introduced unemployment insurance to Canada, but it was another 30 years before the Act provided provisions for maternity leave. Starting in 1971, mothers with 20 or more insurable weeks could claim up to 15 weeks of benefits. Almost two decades later, in 1990, 10 weeks of parental leave benefits were added. These could be used by either parent or split between them (HRDC 1996). Another significant change in December 2000 increased parental leave benefits from 10 to 35 weeks, effectively increasing the total maternity and parental paid leave time from six months to one year. As well, the threshold for eligibility was lowered from 700 to 600 hours of insurable employment. However, the rate of benefit remained unchanged at 55% of prior weekly insurable earnings up to a set maximum (see *Parental benefit revision*).

One aim of the 2000 amendment was to enable working parents to care for their infant for longer and still allow them secure re-entry into employment. After the extension of parental benefits, all provinces and territories revised their labour codes to give full job protection of 52 weeks or more to employees taking paid or unpaid maternity or parental leave.<sup>2</sup> Many other industrialized countries have moved to provide employment-protected parental leave as well. In 1996, the European Union (EU) passed a directive on parental leave mandating the right of all workers to at least three months leave (not necessarily paid) for childcare purposes (as distinct from maternity). As of 1998, 13 of the EU countries had statutory parental leave provisions, 2 did not (United Kingdom and Ireland), and one (Luxembourg) had limited provisions (Hall 1998).

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## Parental benefit revision

In 2000, Bill C-32 amended the *Employment Insurance Act* regarding paid parental leave in Canada. Starting December 31, 2000, leave time for employed parents increased from 10 to 35 weeks. Parental leave benefits can be claimed only after the birth of the child, and the leave must be taken within 52 weeks of the birth. To qualify, parents must have worked for 600 hours in the past 52 weeks, down from 700 previously. The 35 weeks of benefits can be taken by one (qualifying) parent, or they can be split between both (qualifying) parents, with only one waiting period required between them. The benefit entitlement remains at 55% of average insured earnings up to a maximum of \$413 per week.

Maternity leave benefits, which are administered in the same way as parental benefits, can be claimed for 15 weeks by women only, and up to 8 weeks before the birth.

Although a discussion of sickness benefits is outside the scope of this paper, as of March 2002, these benefits no longer cut into the total eligible period for maternity and parental benefits. More information is available on the HRDC Web site ([www.hrdc-drhc.gc.ca](http://www.hrdc-drhc.gc.ca)).

The expansion of parental benefits has the potential to alter the labour market behaviour of both mothers and fathers. Do women now remain at home longer with their infants, and are there factors, such as income, that influence the length of leave time taken? Do women return to the same employer after longer periods of leave? This paper examines the labour market activity of mothers before and after the last paid parental leave amendment. Some of the events, such as returning to work, are based on both actual and intended behaviour (see *Data source and definitions*).

## Overview findings

In both 2000 and 2001, over 300,000 mothers had infants at home (Table 1). In both years, roughly three-quarters of these mothers had been employed for at least one of the 52 weeks prior to the birth of the child—74% in 2000 and 77% in 2001.

**Table 1: Work-related facts on mothers with infants under 13 months**

	2000	2001
<b>Total mothers</b>	<b>314,300</b>	<b>203,300<sup>a</sup></b>
		%
Worked during year before birth	74	77
Spouse claimed or planned to claim parental benefits <sup>b</sup>	3 <sup>E</sup>	10*
<b>Worked prior to birth</b>	<b>100</b>	<b>100</b>
Returned or planned to return to work within 2 years <sup>c</sup>	84	82
Reference job was paid	93	93
<b>Employees</b>	<b>100</b>	<b>100</b>
Received EI maternity and/or parental benefits	79	84
Received EI and employer or other top-up	23	20
Returned or planned to return to same employer <sup>d</sup>	84	89

Source: Employment Insurance Coverage Survey

<sup>a</sup> The total of mothers in 2001 was 326,600, but because the extended parental benefit program began in 2001 only those who gave birth in 2001 were included.

<sup>b</sup> Of those with a spouse present.

<sup>c</sup> See note 3.

<sup>d</sup> Of those who took a break from work of one week or longer, and returned or planned to return within 18 months.

\* Statistically significant difference between the two years at the .05 level or less.

Among mothers who worked prior to the birth of their child, 84% in 2000 and 82% in 2001 returned or planned to return to work within two years.<sup>3</sup> The extension of paid leave does not appear to have affected mothers' return-to-work rate. An equal proportion of these women reported their reference job as paid (93%) (see *Data source and definitions*).

More mothers with paid jobs received maternity or parental leave benefits in 2001 (84%) than in 2000 (79%). This may be a result of the heightened awareness of the highly publicized revised parental benefit program and the reduction in the entrance requirement from 700 to 600 insurable hours. In any case, the combination of increased access to parental benefits and increased labour force participation of expectant mothers elevated the overall proportion of all new mothers receiving maternity or parental benefits from 54% in 2000 to 61% in 2001. Still, 39% of mothers with newborns in 2001 did not receive birth-related benefits because they were not in the labour

force (23%), were paid workers who were ineligible or did not apply for benefits (12%), or were self-employed (5%).

A slightly smaller proportion of women who received EI reported receiving a financial top-up from either their employer or another source in 2001 than in 2000 (20% versus 23%). Women were much more likely to receive a top-up if they worked for a large firm. In 2001, 31% of those employed in firms of 500 employees or more received a top-up, compared with 18% of those in smaller firms. Also, the vast majority in both years returned to the same workplace, with 2001 showing a slightly higher rate—89% versus 84%.

Only about 3% of husbands claimed or planned to claim paid parental benefits in 2000, whereas by 2001 the figure more than tripled to 10%. This is not only a statistically significant increase, but also a socially significant one. Although the length of time involved is not known, approximately 1 in 10 fathers take a formal leave from their job to be at home caring for a newborn. Administrative EI data also shows a five-fold increase in the number of men receiving parental benefits since the amendment (Pérusse 2003). This parental leave benefit claim rate for fathers moves Canada ahead of many other countries, but still leaves it considerably behind those that offer non-transferable leave to fathers—Norway, for example, where almost 80% of fathers take parental leave (see *International take-up rates among fathers*).

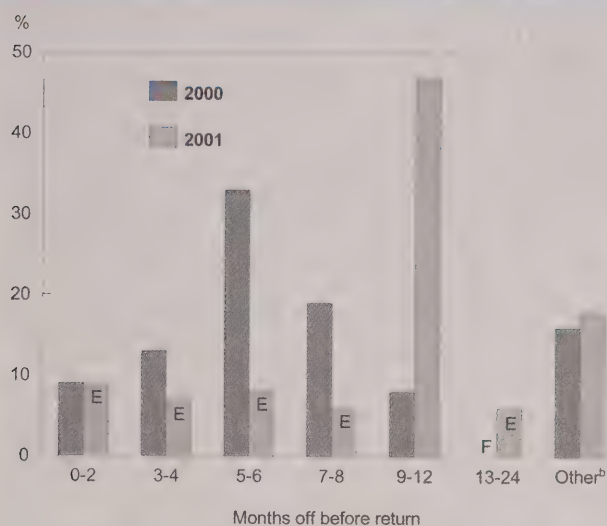
### One year off work more common now

For mothers who returned or planned to return to work within two years of childbirth, the most common return time changed from 5 to 6 months in 2000 to between 9 and 12 months in 2001 (Chart A). Clearly a result of the longer paid-benefit period, the proportion of women returning to work after about a year off (9 to 12 months) jumped from 8% to 47% between the two years.

Roughly 1 in 10 women in both years took either no time, or only one or two months, off work after childbirth. The vast majority of these early returnees were self-employed or employees without maternity or parental leave benefits. At the other end of the spectrum, for both years, less than 2 in 10 women did not plan to return to work, or did plan to return and either did not know when or gave a date beyond two years.



**Chart A: Returning<sup>a</sup> to work between 9 and 12 months after birth increased sharply.**

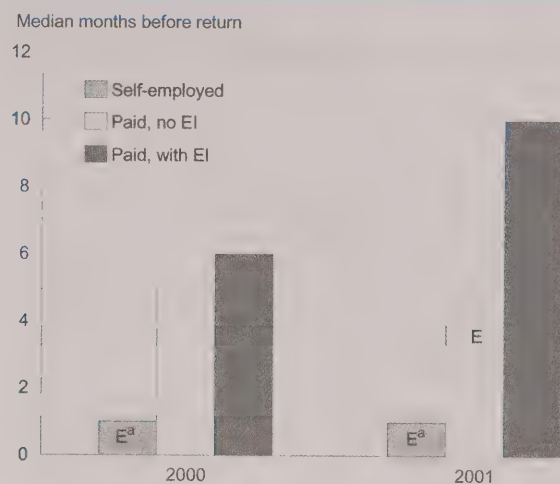


Source: Employment Insurance Coverage Survey

<sup>a</sup> Based on completed and planned absences.

<sup>b</sup> Those who planned to return in 25 months or more, planned to return but did not know when, or did not plan to return at all.

**Chart B: After 2000, actual and planned time off increased for mothers with EI only.**



Source: Employment Insurance Coverage Survey

EI = Maternity and/or parental benefits

<sup>a</sup> See note 4.

## Time off jumps from 6 months to 10 for benefit recipients only

Among self-employed women who returned to work within two years, the median time off work was only one month in both 2000 and 2001 (Chart B).<sup>4</sup> Previous research supports this finding, and suggests that entrepreneurs on leave can face a double financial loss, not only because of their own lost earnings but because of the possible expense of hiring a replacement worker (Marshall 1999). And, since the self-employed do not pay into the Employment Insurance program, they are not entitled to maternity or parental leave benefits. The median length of time off work also changed very little for employees not receiving maternity or parental benefits—five months in 2000, and four months in 2001. The self-employed and employees without benefits accounted for a minority of the total who were previously employed and had returned (23% in 2000 and 19% in 2001).

Most women who returned or planned to return to work were employees in receipt of maternity or parental leave benefits: 77% in 2000 and 81% in 2001. And it is this group that appreciably extended their

stay at home following the program amendment. The median time at home for women with benefits increased from 6 months in 2000 to 10 months in 2001. Although there is some variation around the median, most recipients were concentrated in a narrow band around this figure. Two-thirds (67%) took or planned to take 9 to 12 months, one-quarter took 8 or less, and the remainder took 13 to 24.

## Key factors in length of paid time off

### Father's take-up rate of benefits

Although most employees with benefits took advantage of the revised parental leave program and were, or planned to be, off work for almost a year, one-quarter of the women took less than 9 months off (median of 5 months) (Table 2). The two groups share many similarities; they had roughly the same median age (30), the same marriage rate (95%), and the same education (7 out of 10 had a post-secondary diploma or university degree). However, fathers' participation in the program differed significantly. Almost one-quarter of the husbands of women who took less time off claimed or planned to claim benefits, while only a handful of husbands of the long leavetakers did so. Logically, if fathers claim some of the 35 paid parental

## Data source and definitions

The Employment Insurance Coverage Survey (EICS), a supplement to the Labour Force Survey (LFS) since 1997, studies the extent of coverage of the Employment Insurance program. Starting in 2000, a special maternity supplement was added to help monitor the effect of the extended parental benefit program, which began December 31, 2000.

The supplement asked new mothers detailed questions on their labour market situation before and after the birth/adoption of their child. Other information collected included the timing of any breaks before and after the birth/adoption, the receipt of EI by type and benefit level, as well as individual and household income prior to or since the birth/adoption. The survey also asked about spousal use of parental benefits, as well as some employer- and childcare-related questions. In cases where an event had not occurred—for example, a mother's return to work or a husband's claim for parental benefits—subsequent questions about intentions were asked. Calculations of the time off work are based on both completed and intended leave spells.

The sample included roughly 1,350 mothers with children less than 13 months of age in both the 2000 and 2001 surveys. However, almost 500 of those interviewed in 2001 had given birth or adopted their child in 2000 and were therefore excluded from the analysis. This paper examines the labour market behaviour of a sample of mothers who gave birth before and after the implementation of the parental benefit amendment, which means births in 1999 or 2000, and 2001.

A number of non-sampling errors, such as incorrect skip patterns, have led to some data quality issues, particularly with the 2001 file. Several variables have some missing responses, and in these cases calculations are based on valid responses only. The extent of the problems is not believed to seriously affect the results. Future cycles of the survey will resolve these problems.

**Employment prior to birth:** Women were considered employed if they reported working one or more weeks for pay or profit in any of the 52 weeks preceding the birth of the child.

**Annual earnings** were derived for all previously employed women by multiplying usual weekly hours of work by total weeks worked before birth (maximum of 52) by usual hourly earnings.

All respondents were asked to report total **household income** from all sources within a list of income ranges provided.

Women had an **employed spouse** if at the time of the survey they reported living in a husband-wife family in which the husband was employed.

**Reference job characteristics** were collected at the time of the LFS, which was 4 to 6 weeks before the EICS. For women who were not yet back to work, the term refers to their last main job held; for women who had already returned, it refers to their current main job.

If mothers, while pregnant or on leave, received employer payments, private insurance payments or other benefits in addition to EI maternity or parental benefits, they were considered as receiving a **top-up**.

**Parental leave** refers to a period of job-protected time granted to employees for the care and nurturing of their children. Currently, all provinces and territories offer at least 52 weeks to mothers and 37 weeks to fathers.

**Parental benefits** are available to previously employed qualifying parents (see *Parental benefit revision*).

**Duration of time off work** was calculated for all women who reported taking a break of one week or more after the birth/adoption of their child. For those who had already returned to work, the total weeks off work was recorded. For those who were not yet back to work, but who knew when they would return, the planned return date was recorded. In all cases, total time off was calculated as the time between the birth month and year of the child and the month and year of return. As expected, a greater percentage of return-to-work spells based on 'intentions' was noted for mothers who gave birth after the parental benefits amendment. Of all time-off spells that took place within two years, 74% were based on a specified future return date in 2001, compared with 40% in 2000.

Some precision is lost in calculating total time off in months rather than in weeks, but the more important issue is the change between 2000 and 2001. Also, total time off work may be underestimated because some women begin their maternity leave before the birth, since this benefit can be claimed up to eight weeks ahead of time.

leave weeks, mothers would have less than a year of paid leave for themselves, and thus a shorter stay at home. Further analysis<sup>5</sup> indicated that women with partners who claimed or planned to claim parental benefits were 4.6 times more likely to return to work within eight months than those with partners who did not claim benefits.

## Income

Significantly more mothers who returned within eight months reported annual earnings below \$20,000 in their previous or current job (49%), compared with those who returned after almost a year (29%).<sup>6</sup> In other words, lower individual earnings were associated with



**Table 2: Characteristics of employees with EI maternity and/or parental benefits, by actual or planned return to work, 2001**

	Within 2 years <sup>a</sup>	Within 1 year		Odds ratios <sup>d</sup>
		0 to 8 months	9-12 months	
<b>Total employees</b>	<b>97,600*</b>	<b>24,000</b>	<b>65,700</b>	
Median time off (months)	10	5	11	
<b>Personal characteristics</b>				
Median age (years)	31	30	31	ns
Spouse employed <sup>b</sup>	90	84	92	ns
Spouse not employed	10 <sup>E</sup>	F	F	
Spouse claimed or planned to claim parental benefits <sup>b</sup>	10 <sup>E</sup>	F	F	4.6***
Spouse did not claim benefits	90	77 <sup>E</sup>	94*	
High school or less	28	F	29	
Post-secondary diploma, university degree	72	73 <sup>E</sup>	71	ns
<b>Income</b>				
Had employer top-up	26	27 <sup>E</sup>	26 <sup>E</sup>	ns
No top-up	74	73	74	
Annual personal earnings				
Under \$20,000	35	49 <sup>E</sup>	29*	2.9 **
\$20,000 - \$39,999	45	31 <sup>E</sup>	51	
\$40,000 or more	21	F	20 <sup>E</sup>	
Annual household earnings				
Under \$40,000	41	46 <sup>E</sup>	38*	ns
\$40,000 - \$59,999	34	32 <sup>E</sup>	34	
\$60,000 or more	25	F	28 <sup>E</sup>	
Median weekly EI benefits	316	\$ 300	323	ns
<b>Job related<sup>c</sup></b>				
Full-time job	86	82	87	ns
Part-time job	14	F	13 <sup>E</sup>	
Permanent job	95	87	98*	
Temporary job	F	F	F	4.8 **
Unionized	36	33 <sup>E</sup>	34	
Not unionized	64	67 <sup>E</sup>	66	ns

Source: Employment Insurance Coverage Survey

<sup>a</sup> Excludes cases of non-response. The sample for those who took or planned to take 13 to 24 months off work was too small to present by individual characteristics.<sup>b</sup> Only those with spouses, which was 95% for all groups.<sup>c</sup> Refers to reference job at time of interview (see Data sources and definitions).<sup>d</sup> See note 5.

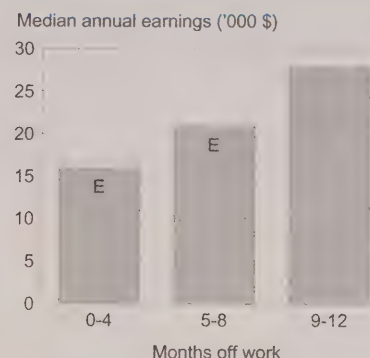
\* Statistically significant difference at the .05 level or less. Tests were done between the two return groups for each variable.

\*\* Regression results statistically significant at the .01 level, or less.

\*\*\* Regression results statistically significant at the .001 level, or less.

ns Not significant

a quicker return to work (Chart C). For example, mothers with maternity or parental leave benefits who returned to work within four months had median annual earnings of just under \$16,000. This suggests that women with lower earnings (and possibly lower savings) may not be financially able to stay at home for an entire year on 55% of their earnings.

**Chart C: Mothers with EI took or planned more time off work if earnings were higher.**Source: Employment Insurance Coverage Survey  
EI = Maternity and/or parental benefits

Since personal income influences total household income, early returnees were also more likely to be part of a household whose total income was under \$40,000—46%, compared with 38% for those who returned between 9 and 12 months (Table 2). However, when household income is compared with all other variables at the same time, by way of regression analysis, the mother's earnings are clearly the overriding factor.

Receiving an employer top-up or other compensation in addition to paid maternity and parental

### International take-up rates among fathers

Even though the EU parental leave directive was implemented in 1996, most research shows that participation rates are high for mothers (90% or more) but not for fathers, even though the benefit is usually paid and available to both parents. Data from a number of European countries indicate that fathers' participation in parental benefits is often under 5% (Austria, Germany and Finland). Participation rates tend to be higher only in countries where parents are offered non-transferable paid parental leave (each parent must use the leave or lose it), such as Sweden and Norway where rates are 36% and 78% respectively. Many reasons have been put forward for the low parental benefit take-up rates for fathers including social, cultural and employer attitudes, the income rate while on leave, the level of job protection, and also "whether or not the mother wishes it" (OECD 2001). One reason for the increased claim rate in Canada (from 3% in 2000 to 10% in 2001) may be that fathers no longer face a two-week payless waiting period if their spouse has already served one. Another reason may be the length of time now offered for benefits—with 35 weeks available, mothers may be more willing to share some of the leave time with their partners.

**Fathers' participation in paid parental leave<sup>a</sup> for selected countries**



Sources: *European Industrial Relations Observatory on-line* ([www.eiro.eurofound.ie](http://www.eiro.eurofound.ie)); OECD, 2001; EICS, 2001  
<sup>a</sup> A Distinct from paid paternity leave

benefits does not appear to affect the timing of returning to work. Just over a quarter of all employees who returned or planned to return to work within two years enjoyed this benefit.<sup>7</sup> Although the top-up was substantial for many—half received a supplement large enough to equal 90% or more of their previous earnings—the median duration was only 15 weeks. The median weekly EI benefit rate was somewhat

lower for those who returned sooner than for those who returned later (\$300 versus \$323), but the difference was not statistically significant.

### Job permanency

The majority of mothers who took or planned to take a year off had worked full time in their previous or current job (87%), as had those who took less time off (82%). And, almost equal proportions (one-third) reported the job as unionized. However, one job-related factor that did determine a relatively early return to work, despite receipt of maternity or parental leave benefits, was whether the mother's job was permanent. Almost all (98%) of mothers on leave for a year had a permanent job, compared with 87% of those who returned in eight months or less. The job-permanency rate for benefit recipients who returned in four months or less was only 75%. Roughly 90% of these non-permanent jobs were temporary, term, contract or casual, and so would in theory be less likely to offer job protection. Those with non-permanent work were almost 5 times more likely to return to work in less than nine months compared with those with a permanent job.

Some of the key factors influencing the time away from work for women with maternity and parental benefits may be interrelated. For example, non-permanent jobs generally offer lower wages than permanent ones, so an early return to work might reflect the possibility of job loss, economic necessity, or both. Further analyses in subsequent years, when the entire sample will include births after the 2001 parental leave extension amendment, and upcoming data from the Survey of Labour and Income Dynamics may help shed further light on these questions.

### Summary

Bill C-32 added 25 weeks of paid parental leave to the pre-existing 10. Including the 15 weeks of maternity benefits, parents can now receive up to a year of benefits while caring for their newborn children. Those who received these benefits experienced a significant increase in the time taken off work after the birth or adoption. Over 80% of these women returned or planned to return to work within two years, and the median time off increased from 6 to 10 months between 2000 and 2001. Despite the extended time off taken by most women who received benefits, one-quarter of them returned to work within eight months. Significant factors linked with a shorter leave from



work included a father's participation in the parental benefit program, a mother's job being non-permanent, and low employment earnings. Even with the increased time away from work, women were equally likely to return to the same employer in both years.

However, the program amendment had no effect on those without access to parental leave—roughly 46% of all mothers with newborns in 2000 and 39% of those in 2001. The increased claim rate in 2001 was likely due to the increased employment rate of women before childbirth, as well as the increase in the proportion of employees qualifying for birth-related benefits. The mothers in 2001 without maternity or parental benefits consisted of those who were self-employed (5%), paid workers who did not qualify or apply for benefits (12%), and those who had not previously been employed (23%).

Since the extension of parental leave benefits, fathers' participation rate in the program has increased from 3% to 10%. So, not only are most newborns receiving full-time care by their mothers for longer, but many more are experiencing a father at home for some of the time as well.

### Perspectives

#### ■ Notes

- 1 In 1996, the Unemployment Insurance Act became the Employment Insurance Act (EIA).
- 2 Under provincial or territorial labour codes, job-protected parental leave is granted to those with continuous employment, which can range from less than a week to one year.
- 3 This finding differs from a 1993-94 study of women returning to work after childbirth using the Survey of Labour and Income Dynamics (SLID), where 93% of women reported being back to work within two years. One reason for the difference may be that at the time of the EICS, about 8% of mothers were undecided about their future return. With the undecided removed, 90% of the women in the EICS also reported returning within two years.
- 4 An error in the questionnaire meant that all self-employed women in 2000, and most in 2001, who had not yet returned to work were not asked about their intention to return. Therefore, the calculations are based on completed spells only and likely underestimate the true time off. However, the majority of the self-employed had already returned, and well over half did so in less than three months.

This is consistent with analysis of self-employed mothers using the Survey of Labour and Income Dynamics, which found that 80% of those previously employed were back to work by the end of the first month after childbirth (Marshall 1999). Also, the full 2001 survey was used in order to have a large enough sample for calculation in Chart B (that is, self-employed mothers who gave birth in 2000 were included).

5 A logistic regression model was used to examine the probability of having taken less than nine months off work. The dichotomous dependent variable was less than 9 months (= 1) and 9 to 12 months (= 0). More information about the model may be obtained from the author.

6 An assumption is made that employment before and after the birth is largely similar. This is based on the fact that well over 80% of the women return to the same employer, and 90% to the same hours (Marshall 1999).

7 The overall top-up rates of 20% and 26% found in Tables 1 and 2 respectively, differ because of the population examined. The 26% includes only employees with maternity or parental benefits who had returned to work within two years.

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# New maternity and parental benefits

*Dominique Pérusse*

**T**O WHAT EXTENT ARE parents taking advantage of recent changes to the maternity, parental and adoption benefits available under the Employment Insurance (EI) program? (See *Data source and definitions*.) This report presents some statistics compiled from data provided by Human Resources and Development Canada. Note that the increase in the average number of parents receiving benefits each month could be a combination of more people qualifying under the new regulations and the extended length of time for which benefits can be claimed.

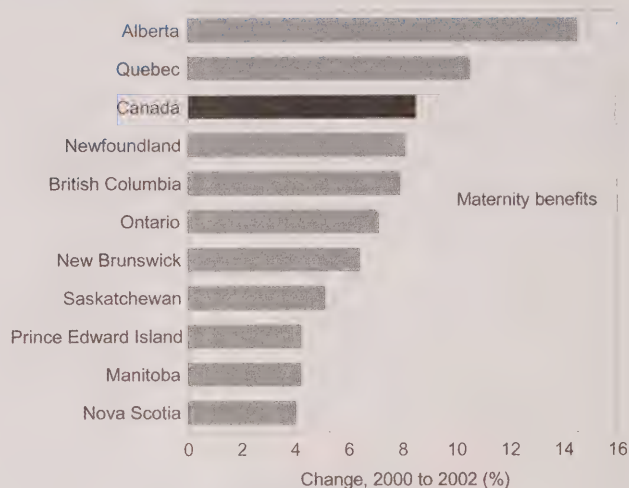
## Maternity benefits

Between 2000 and 2002, the average number of women receiving EI maternity benefits each month increased from 49,700 in 2000 to 53,900 in 2002, an 8.5% increase. Provinces showing the least change were Nova Scotia (4.0%), Prince Edward Island (4.2%), and Manitoba (4.2%) while Alberta (14.5%) and Quebec (10.5%) recorded the most. (Analysis was not conducted in the territories because of the small number of beneficiaries.)

A large part of the increase can be explained by the reduction in the number of hours of insurable employment required to qualify—from 700 to 600 hours. This change allowed a monthly average of 2,200 more mothers to receive support in 2002, half of the increase between 2000 and 2002.

Mothers who qualified with less than 700 hours of employment generally had lower insurable weekly earnings since they were more likely to be part-time workers. In 2002, 5% of mothers receiving benefits

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Source: Employment Insurance Statistics Program

had insurable earnings of less than \$200 per week, but they represented 28% of those who qualified with less than 700 insurable hours.

## Parental benefits

A monthly average of 4,900 parents who would not have qualified under the old program received parental benefits in 2002. These new qualifiers (4,700 mothers and 200 fathers) worked between 600 and 700 hours in the year before they requested benefits. They represented 2.3% of the average monthly number of fathers and 4.3% of mothers receiving EI parental benefits in 2002.

The coverage extension of parental benefits was particularly beneficial to women. While 93% of all beneficiaries were women, they made up 96% of parents in the category of qualifiers with less than 700 hours.



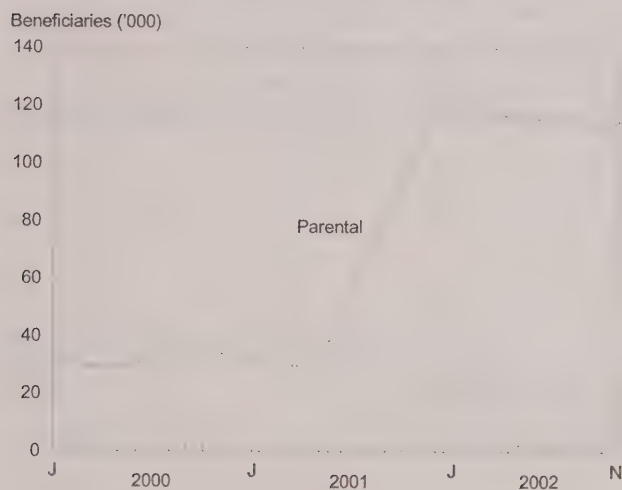
## Dramatic increase in parental benefits

Since the recent changes to the EI program, more parents have been able to qualify for parental benefits, and for longer. The number of beneficiaries rose sharply from 31,400 in January 2001 to 123,400 in January 2002. Because 2001 was a transition year, the effects of the EI modifications were analyzed by comparing averages for 2000 and 2002.

While those who adopt a child are not eligible for maternity benefits, they are eligible for 35 weeks of adoption benefits. As with parental benefits, these

weeks can be shared between the mother and father, and only one two-week waiting period need be served. The average number of adoptive parents receiving benefits each month nearly quadrupled between 2000 and 2002, rising from 400 to 1,400 per month, an increase comparable to that for biological parents.

Women accounted for 90% of parents receiving adoption benefits in 2000 and 88% in 2002. The proportions were larger for women receiving parental benefits—95% and 93% respectively.



Source: Employment Insurance Statistics Program



Source: Employment Insurance Statistics Program

## Total benefits more than doubled

In 2002, for all three EI programs combined (maternity, parental and adoption), \$223 million was paid out each month in benefits. This was an increase of 119% over the \$102 million two years earlier.

Maternity benefits increased the least, 13%, to reach \$69 million per month. Parental benefits experienced the largest jump, rising from \$40 million per month in 2000 to \$152 million per month in 2002, nearly four times higher. Adoption benefits did about the same, increasing from \$0.5 million to \$2 million.

In 2002, maternity benefits represented only 31% of the total cost of the three programs, compared with 60% in 2000. On the other hand, parental benefits represented 68% of total payouts compared with 39% in 2000. The adoption benefits program remained marginal at a mere 1% of total benefits.

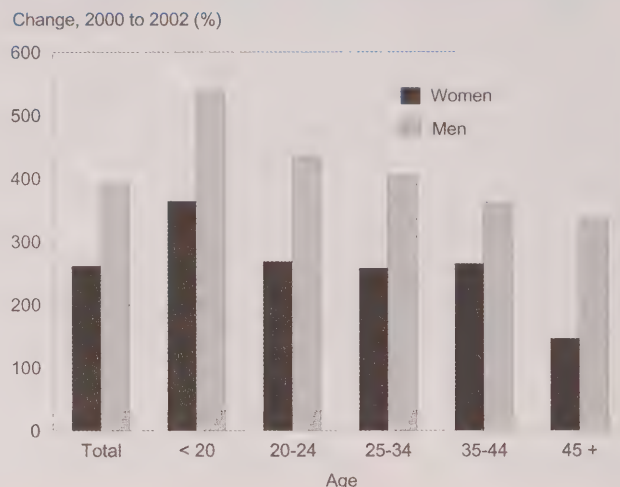
The shift in the proportion of payouts from maternity to parental benefits is easily understood. In 2000, the 15 weeks allowed for maternity benefits counted for 60% of the 25-week maximum for maternity and parental benefits combined. In 2002, those 15 weeks dropped to 30% of the 50-week maximum for the two combined.

## Nearly four times as many women on parental benefits, five times as many men

In 2002, an average of 108,700 mothers collected parental benefits each month, 4 times as many as in 2000 when the figure was 30,100. Mothers younger than 20 had the highest increase—nearly 5 times.

Previously, fathers were required to serve a two-week waiting period if they wished to share benefits with the mother, who also had to serve a two-week period at the beginning of her claim for maternity benefits. The father is no longer required to serve the second waiting period.

The average number of fathers receiving parental benefits each month reached 7,900 in 2002, 5 times more than the 1,600 two years earlier.



Source: Employment Insurance Statistics Program

## Women have fewer hours of insurable employment than men

Women in the labour market work fewer hours on average than men. However, once women reach the threshold of 600 insurable hours, they are entitled to the full maternity/parental benefits package of 50 weeks.

In 2002, nearly 6 in 10 men participating in the parental benefits program had accumulated 1,820 or more hours of insurable employment in the year preceding their parental leave, the equivalent of 35 hours or more per week. In comparison, 4 in 10 women had worked the same number of hours.



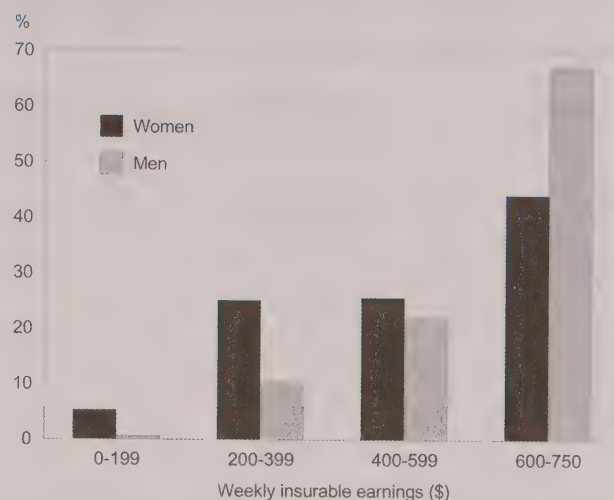
Source: Employment Insurance Statistics Program



## Women have lower insurable earnings than men

Women have lower average weekly insurable earnings than men. Lower earnings mean lower benefits, since benefits are equivalent to 55% of average weekly insurable earnings up to a maximum of \$413 per week.

Thirty percent of women receiving parental benefits had average weekly insurable earnings lower than \$400 during their qualification period, compared with only 11% of men. Similarly, during this period, 67% of men had average weekly insurable earnings of \$600 or more, compared with only 44% of women.



Source: Employment Insurance Statistics Program

## Data source and definitions

The Employment Insurance Program, administered by Human Resources Development Canada (HRDC), provides three types of benefits to parents: **maternity**, **parental** and **adoption**. While the HRDC Web site should be consulted for technical information regarding these benefits, the changes to the EI Program since January, 2001 can generally be described as follows.

From November 18, 1990 to December 30, 2000, the maximum number of eligible weeks of maternity, parental, and sickness benefits combined was 30 weeks. Legislative changes in effect since December 31, 2000 increased the maximum number of paid eligible weeks to 50—with a maximum of 15 weeks maternity benefits, available only to the biological mother, and a maximum of 35 weeks parental or adoption benefits, which can be shared by both parents, biological or adoptive.

Another legislative change, which went into effect on March 3, 2002, ensures that the 50-week EI eligibility period for parents is no longer reduced by the weeks of sickness benefits the mother may need during pregnancy. Since this change is very recent, it is too early to assess its impact. The use of sickness benefits is not covered here.

### Hours of insurable employment

To qualify for maternity, parental or adoption benefits, claimants must have accumulated 600 hours of insurable employment in the preceding year. Prior to December 31, 2000, the number of required hours was 700.

### Average weekly earnings

Benefits equal 55% of a claimant's average gross weekly earnings during the 26 weeks preceding the claim, to a maximum of \$413 per week. Weeks with little or no earnings (under \$150) are not included in the calculation of the benefit rate, although the hours count toward the 600-hour qualification requirement.

### Average monthly number of beneficiaries

The administrative data from HRDC relate to people receiving benefits during the week that includes the 15<sup>th</sup> of the month. These data are updated monthly and are used to publish standard indicators related to EI benefits and claims. This report compares the average of the first 11 months of 2000 and 2002. (Data for December 2002 were not available at the time the report was prepared).

# Taking stock of equity compensation

Jacqueline Luffman

**S**TOCK OPTIONS GARNERED many headlines during the recent high-tech boom and bust. While media attention focused on fortunes gained and lost, little background information was offered on the nature of various plans, or the employers and employees involved. On the one hand, plans such as stock options allow employees to share company risks and rewards, in the hope that they themselves will be financially rewarded. On the other hand, companies see this benefit as a way to encourage greater employee effort, as well as to attract and retain high-quality workers.

Equity compensation is not new. The United States has had legislation governing employee ownership plans since 1974, and other countries have had similar tax and legal requirements. Canada has no specific federal legislation on employee ownership plans; however, certain situations are covered in tax legislation and several provinces provide supporting grants or tax breaks (see *Tax and legal requirements of stock purchase plans*). As a result, the terms 'employee share ownership plan' (ESOP), 'stock option,' 'stock purchase plan,' and 'equity compensation' are often used interchangeably. Without a central legislative focus, evidence on the breadth and depth of employee stock ownership has been piecemeal. In 2002, *The Globe and Mail* reported that about one-third of the 100 largest companies in Canada have some form of long-term stock plan. But do these plans extend to all employees? Do smaller companies also have plans? And what is the range of plans offered?

This article describes several forms of stock purchase plans in Canada and examines participation using the Workplace and Employee Survey (see *Data source and definitions*). Some U.S. statistics are presented as well.

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## Stock purchase plans

Three types of stock purchase plans are common in Canada. They can be combinations of employee ownership and equity plans. The best known are stock options. A stock option is a legal agreement between an employee and employer giving the employee the right to buy a fixed number of company shares at a fixed price (the exercise or strike price). An option holder has no shareholder rights, such as receiving dividends or voting. A contract sets out the terms, which include number of shares, vesting schedule, exercise price, and termination date.<sup>2</sup> Regulations on determining the exercise price vary depending on whether the companies are publicly traded (and thus bound by the requirements of a particular stock exchange) or privately traded.

For example, consider an employee beginning a new job at company X. In addition to an annual salary, the person receives a stock option grant for the right to purchase 1,000 shares of company stock at the exercise price of \$3 per share. The shares are vested but can only be purchased after a specified period of time—typically three to five years. At the end of the period, the price per share has risen to \$6. The employee may now choose to exercise the option and buy the shares, which can either be held or sold immediately on the open market. Some companies may stipulate mandatory holding periods. Tax consequences arise upon both exercising the option and selling the shares.

Stock equity plans entail the legal transfer of ownership of shares. The employee is required to pay for the stock and may or may not have additional rights attached to it. The risk potential associated with investing in the company levels the playing field between the original owners and employee 'owners.' Some observers note that stock equity plans are more successful than other types of equity compensation



## Tax and legal requirements of stock purchase plans

For the stock plan participant, certain tax implications arise both when the option to buy the stock is exercised and when the stock is sold. Essentially, when the fair market value is greater than the amount paid, the difference is considered an employment benefit and is thus taxed as salary and wages. Under new rules implemented in 2000, employees can defer taxation on stock options for publicly listed shares. That is, if employees exercise their option, they can defer their capital gains tax. Upon sale of their shares, they can claim the 50% employee stock option deduction to partially offset the inclusion of these benefits in their income. In a stock purchase type of equity compensation (for example, a stock equity plan), employees purchase shares from the company treasury or owner directly. When the shares are purchased, the employee pays the fair market value on the date of purchase. This amount is used by the Canada Customs and Revenue Agency to calculate any future capital gains.

Overall, Canadian plans are non-legislated and built around tax laws or provincial legislation. Six provinces have some form of employee share ownership legislation in place. In British Columbia and Saskatchewan, employees receive a 20% tax credit on the amount invested in a registered ESOP. British Columbia has had employee ownership legislation since 1989 (under the Employee Investment Act). Eligible companies that want to register ESOPs cannot exceed 150 employees and must pay at least 25% of their wages to residents of the province. Legislation in Nova Scotia and Ontario offers employees a 20% tax credit on the cost of shares purchased through an ESOP. Similarly,

in Manitoba a provincial tax credit of \$700 is offered. Quebec set up the Quebec Stock Savings Program in the 1970s. Here, employees get a 125% to 175% deduction on funds invested in an ESOP, to a maximum of 30% of a net income.

A debate is emerging in Canada and the United States over the current accounting standards on stock options plans. Unlike other forms of non-wage benefits and other forms of equity plans, the value of stock options is not known. Under current accounting rules in Canada, as long as the number and exercise price of options are fixed in advance, the cost to employers is not treated as an expense. This accounting treatment has generated much controversy. On one side, some argue that because stock options are compensation and compensation is an expense, options should be a liability. On the other side, many executives counter that options are difficult to value properly and that expensing them would discourage their use.

### Setting up stock purchase plans

Before setting up an equity compensation plan, an employer needs to consider the type of equity, percentage of ownership being offered, source of shares (treasury versus ownership group),<sup>1</sup> employee eligibility requirements, allocation amount, vesting periods, buyout provisions, share acquisition, and financing. A number of organizations and professionals will consult with companies to discuss the pros and cons of each option. The entire process, from the design of the plan to implementation can take from three to six months (Phillips 2001).

because employees who have invested money in a company are more likely to have a higher level of commitment (Phillips 2001).

Phantom stock units have rights equivalent to real stock equity but entail no legal transfer of ownership. The employee does not have legal title to any of the assets of the company. Phantom stock units are generally used when owners are not comfortable transferring real equity ownership to employees and do not want them to have a vote.

### Stock purchase plans can be complex

The lack of direct federal legislation leaves companies free to develop diverse types of plans. The choice usually depends on company culture and ownership structure. For example, a privately traded firm not able to issue shares but wishing to establish some ownership culture may choose a phantom stock plan as the most practical option. Employers can give employees stock in the company through various arrangements—for example, to upper management employees only or to

all employees. More and more, companies are offering their stock option plans to non-management personnel, including both salaried and hourly non-unionized employees (Brown 2002).<sup>3</sup> An employer can also set up various types of stock option plans with different vesting schedules, share amounts, and exercise specifications and prices. For all stock purchase plans, a company can specify eligibility requirements such as minimum length of tenure in a particular job, number of shares allocated to an employee (more shares with more seniority, for example), and buyout provisions.

### Employee benefit and recruitment tool

Equity compensation is often used as a tool for recruiting, retaining and motivating employees in a competitive labour market. As Canadian companies turn more to the international labour pool, this kind of compensation is being seen as an attractive incentive. Instead of receiving just a wage, workers have the opportunity to gain financially from the increased value

of the company. Equity compensation can also be used to reward good performance and to promote pride and corporate loyalty. In a survey of about 300 companies, the Conference Board of Canada found that 72% cited recruitment and retention of top employees as the number one reason for the use of stock options. In addition, about 40% used stock option plans to foster a sense of ownership.

Most Canadian research on equity compensation highlights the positive benefits of employee ownership, especially if the plan is set up with the employer's corporate structure and management style in mind (Phillips 2001, Beatty and Schachter 2002). In some instances, the financial value of equity compensation may be less important than the perception of employee ownership in influencing worker attitude. Recent case studies of companies with ownership plans show that for those in financial crisis, such plans can be the key to survival, a return to profitability, and continued growth (Beatty and Schachter 2002).

Other industry experts note the greater risk of stock options, which shift a portion of stable wages to payments contingent upon profits. Because the plan is managed by the individual employee, the investment risk could be considerably high. In the wake of corporate scandals and declining stock prices, many financial planners point to the risk of losses from insufficient financial planning information and narrow investment portfolios. One survey of high-tech companies found half admitted that many employees do not understand how their stock option plan works

## Data source and definitions

The **Workplace and Employee Survey (WES)** is made up of a workplace survey on the adoption of technologies, organizational change, training and other human resource practices, business strategies, and labour turnover in workplaces; and a survey of employees within these workplaces covering wages, hours of work, job type, human capital, use of technologies and training. WES was conducted for the first time in the summer and fall of 1999. About 6,300 workplaces and 24,600 employees responded. The survey will follow workplaces for at least four years and employees for two years.

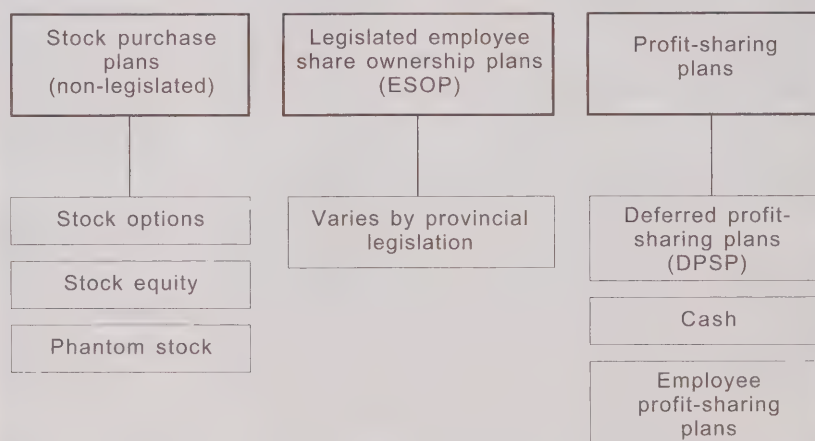
WES excludes workplaces in crop and animal production; fishing, hunting and trapping; private households; and public administration. For comparability with international research on stock options, education and health were also excluded since the vast majority of these jobs are in the public domain. (While a small percentage of health and education jobs are in the private sector, survey limitations meant the entire sector had to be excluded.) Similarly, a small proportion of public sector may be included in other sectors (such as utilities and communication).

Because of different definitions of stock purchase plans, the employee component of WES was used almost exclusively. The workplace survey did ask employers if they offered different types of equity compensation (see *Equity compensation among Canadian employers*).

**Stock purchase plan participants** are employees who said they participated in a stock purchase plan offered by their employer.

No standard definition exists for stock options, stock purchase plans, or employee share ownership plans, largely because of the lack of specific federal legislation. **Equity compensation** covers all forms of equity-based, non-wage benefits, including stock purchase, employee share ownership, and profit-sharing plans (see chart). In general, equity compensation plans can be classified as legislated or non-legislated. Legislated plans are employee ownership plans that meet the requirements of specific provincial legislation, thereby allowing both the employer and employee to obtain tax credits. Six provinces currently have such legislation. Non-legislated plans, such as stock option plans, use current tax laws and are not required to comply under any specific federal or provincial legislation. This article focuses primarily on stock purchase plans.

## Forms of equity compensation





(Bloom 2001). Some U.S. companies are now reporting more education for employees on the potential effect of company stock ownership, and several bills addressing the provision of professional investment advice for retirement planning are before the U.S. Congress (Leder 2002).<sup>4</sup>

### Who participates in stock purchase plans

According to the 1999 Workplace and Employee Survey, about 815,000 or 10% of employees had a stock purchase plan. Of this number, 81% worked for employers who contributed or offered discounts on purchases. Similar to those with other non-wage benefits (such as pension plans, life insurance, or dental coverage), participants tended to be middle-aged or older, work full time, and have permanent jobs. In addition, they were more likely to have a university degree, earn \$20 or more per hour, and work in larger workplaces (Table 1).

### Where stock plan participants work

Stock purchase plans are found in all private-sector industries, regions, and firm sizes. Certain industries, however, are believed to be aggressively using them in recruitment. According to one recent report, high-technology, chemical, pharmaceutical, and telecommunications industries are most likely to allocate company shares to equity compensation (Hynes and Lendvay-Zwickl 2001). Indeed, over a third of employees in the computer and telecommunications (CT) sector had stock purchase plans in 1999 (Chart A).<sup>5</sup> However, these plans were not limited to high-tech. About a quarter of employees in forestry, mining, and oil and gas extraction in 1999 were also likely to be participants. Some primary-sector companies initiated employee ownership plans in a time of financial crisis (Beatty and Schachter 2002). High incidence was also found in information and cultural industries (17%), while construction had the lowest incidence (3%).

Some regional variations were apparent, with proportions highest in Alberta (13%) and Ontario (11%), and lowest in Quebec and Manitoba (7%) (Table 1).

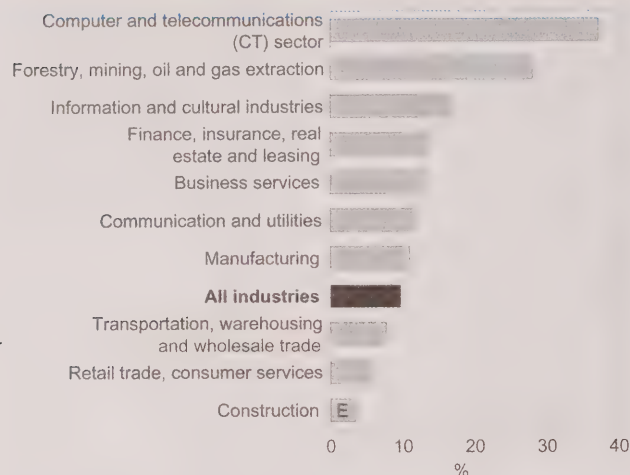
Larger employers in 1999 were more likely to report the availability of different compensation programs. Although two-thirds of private-sector employees worked in environments with less than 100 employees, these workplaces were less likely to have stock purchase plan participants than those with 100 to 499 (13%) or 500 and over (20%).

**Table 1: Characteristics of stock purchase plan participants**

	Have stock purchase plan*	Employer contributed or offered a discount
	%	
<b>Canada</b>	9.7	81.0
Atlantic	7.6	93.6
Quebec	6.4	72.7
Ontario	11.4	81.5
Manitoba	6.6 <sup>E</sup>	77.9
Saskatchewan	7.8 <sup>E</sup>	75.4
Alberta	13.1	81.4
British Columbia	9.7	85.9
<b>Company size</b>		
1 to 19 employees	5.0	79.6
20 to 99 employees	8.4	80.2
100 to 499 employees	13.2	79.5
500 employees or more	19.6	84.4
<b>Sex</b>		
Men	10.0	80.4
Women	9.3	81.8
<b>Age</b>		
Less than 25	3.2 <sup>E</sup>	94.7
25 to 44	10.8	80.5
45 or over	10.1	80.3
<b>Hourly earnings</b>		
Less than \$12.00	3.2 <sup>E</sup>	87.4 <sup>E</sup>
\$12.00 to \$19.99	8.7	74.1
\$20.00 or more	17.7	83.6
<b>Union status</b>		
Member	8.2	71.1
Not a member	10.0	83.0
<b>Education</b>		
Less than high school	3.4	75.9
High school graduation	8.2	84.2
Some postsecondary or certificate	9.7	80.5
University degree	17.5	80.5
<b>Work schedule</b>		
Full-time	10.8	81.1
Part-time	2.1 <sup>E</sup>	79.8
<b>Job tenure</b>		
Less than 1 year	7.8	88.3
1 to 5 years	9.5	82.9
6 to 10 years	9.6	82.2
More than 10 years	11.0	71.5
<b>Job status</b>		
Permanent	10.4	81.5
Temporary	1.7 <sup>E</sup>	50.6 <sup>E</sup>

Source: Workplace and Employee Survey, 1999

\* Employees in the private sector only.

**Chart A: Proportion of employees with stock purchase plans by industry**

Source: Workplace and Employee Survey, 1999

### Most stock purchase plan participants had higher hourly wages

The median hourly wage of stock purchase plan participants was \$22, about \$7 more than those with no stock purchase plans. Overall, the prevalence of stock purchase plans rose with wages and salaries. Those earning \$20 or more per hour were over 5 times as likely as those earning less than \$12 to be participants. Over one-half of plan participants earned \$20 or more per hour, compared with 30% of all private-sector employees.

### Almost a third of computer-related professionals participated in stock purchase plans

With computer programmers and analysts in hot demand at the end of the 1990s, many employers in the high-tech industry sought to attract workers through equity compensation. Not surprisingly, 32% of people in these professional occupations reported having a stock purchase plan in 1999—more than triple the rate for all employees.

Professional occupations in natural and applied sciences had the same participation rate as computer programmers (Table 2). These occupations include

engineers, scientists, chemists, architects and mathematicians. Many of these jobs were in specialized research companies where stocks can be a key component of recruitment.

Not surprisingly, those in professional occupations were more likely to have their employer contribute to or discount their stock purchase plans (83%). Occupations in sales, service and marketing were the least likely (68%). The high incidence of stock purchase plans among professional occupations likely coincides with the high education levels of plan participants. Fifteen percent of private-sector employees had a university degree in 1999, compared with 28% of stock purchase plan participants.

**Table 2: Stock purchase plan participants by occupation**

	Have stock purchase plan	Employer contributed or offered a discount
	%	
<b>All occupations</b>	<b>9.7</b>	<b>81.0</b>
Management	14.1	81.7
Senior managers	13.8	74.8
Professional	20.5	83.4
Natural and applied sciences	32.0	75.2
Computer programmers/analysts	31.7	81.8
Technical and trade	8.3	80.0
Sales, service and marketing	3.5	68.2
Clerical and administrative	8.5	81.7
Production workers	4.3	83.8

Source: Workplace and Employee Survey, 1999

### Union membership had little effect

In 1999, about 8% of union employees (or those covered by a collective agreement) and 10% of non-union employees were stock purchase plan participants. Those in a union were more likely to work in manufacturing (41%). Most of the non-unionized were in manufacturing (22%), retail trade (20%), and business services (17%). Some research suggests that employee ownership and other equity plans foster better co-operation between unions and management. A few case studies found them useful in aligning management and employee goals as well as improving worker motivation (Beatty and Schachter 2002).



## Stock options: the U.S. situation

In more and more U.S. companies, employees are receiving stock options—the new currency of employee compensation (Parker and Gore 2001). Whereas in Canada 'employee share ownership' is a generic reference to stock options and other equity plans, in the U.S., ESOP (employee share ownership plan) has a specific legal meaning. Originally designed to promote investment in company securities, an ESOP is essentially a stock bonus plan—but with two important distinctions. First, it is required to be invested primarily in the securities of the sponsoring employer or one of its affiliates. Second, it may be leveraged—that is, borrowed money may be used to acquire employer stock. Over time, tax-deductible employer contributions to the plan and often dividends paid on the stock are used to repay the loan. As the loan is repaid, shares are released and allocated to employee accounts. ESOP participants generally have the same rights, such as receiving dividends, as other shareholders.

Two types of stock options are available in the United States. Incentive stock options (ISOs) allow employees not to pay taxes at the time of the exercise and to pay only capital gains tax on the entirety. Companies issuing ISOs cannot deduct the spread between the grant and the exercise price from their earnings. Employees who exercise non-qualified stock options (NSOs) are taxed on the difference between the grant and exercise price, regardless of whether the employee actually sells the shares. Companies however, can deduct the difference from their earnings as a compensation expense.

The National Center for Employee Ownership (NCEO) estimates that up to 10 million U.S. employees received stock options in 2000, up from 1 million in 1992. About 8 million employees were included in legislated ESOPs (up from 3 million in 1980). Survey statistics on the actual granting of stock options, however, are much lower. In 1994, the Bureau of Labor Statistics collected information on stock options. At that time, less than 0.5 percent of private-sector workers received stock option grants. By 1999, the figure was 1.7%, some 1.5 million workers (Table).<sup>6</sup> The NCEO reports that employees with stock options work mostly for publicly traded companies and large employers (over 100 employees). Employees with access to equity-based plans tend to be professional or managerial, non-unionized, and with higher incomes.

## Summary

Nearly 1 in 10 private-sector employees were stock purchase plan participants in 1999. Equity compensation plans are extremely varied, as are their financial costs and benefits. Research in this area is further complicated by the lack of a clear definition of what constitutes a stock purchase plan or other equity compensation plan.

## Incidence of equity compensation in the United States

<b>Compensation type</b> (private establishments)	%
Stock option grants	2.4
Other equity compensation*	6.7
<b>Establishments granting stock options</b>	
100 employees or fewer	2.1
More than 100 employees	10.1
<b>Employee characteristics</b> (private employees)	
Received stock options	1.7
After-hire**	1.6
Executive	4.6
Other employee	1.6
<b>Salary</b>	
Less than \$35,000	0.7
\$35,000 to \$49,999	1.5
\$50,000 to \$74,999	4.2
\$75,000 and above	12.9
<b>Establishment size</b>	
100 employees or fewer	0.9
More than 100 employees	2.5
<b>Reason for receiving after-hire stock option grants</b>	
Individual performance	14.4
Salary or pay grade	52.4
Occupational type	7.9
Other†	25.3
Average years needed for full vesting	3.0
Average years before grant expiration	8.9
Average number of shares granted	2,931
Average number of shares granted to executives	15,533
Average number of shares granted to other employees	1,967

Source: Bureau of Labor Statistics, 1999

\* Other programs include, stock purchase plans, phantom stocks, stock bonus plans, employee stock ownership plans.

\*\* After-hire grants are stock options granted during an employee's normal tenure on the job, after the initial hiring (or signing) phase of employment.

† To qualify as providing a stock option, an establishment had to grant an option to at least one employee who was not an owner in 1999.

Stock purchase plans are not mandatory, but they are a benefit that employees must manage themselves. As a result, the associated risk, with stock option plans in particular, can be high; employees can either gain or lose an income source. Employees decide when or if to exercise stock options and then sell the shares on the open market.

## Equity compensation among Canadian employers

A 2002 World at Work survey of about 529 Canadian companies found that over half of firms who offered stock options were publicly traded and most often found in manufacturing and high-tech industries. While many positives are associated with equity compensation, such plans may not hold all the answers for recruitment or sense of corporate loyalty. For example, if a company's stock price declines, options may become worthless, and improved employee performance may be questionable. In addition, shares set aside for option plans could lower a company's earnings per share when they are exercised.

The employer portion of WES asked about the use of four broad categories of compensation schemes. Most entail some form of equity compensation. Individual incentive practices (including bonuses, piece-rates, commissions, stock options, employee stock purchase plans) were the most popular and were reported by just under a third of Canadian private businesses. In addition, merit or skill-based pay was used by about 17% of private businesses. Less popular were profit-sharing plans (8%) and productivity gain-sharing (8%).<sup>7</sup> While almost 90% of private workplaces had fewer than 20 employees, these workplaces were less likely than mid-range and larger workplaces to use all schemes, although this varied from industry to industry (Chart).

### The use of various compensation schemes increases with workplace size.



Source: Workplace and Employee Survey, 1999

Stock purchase plans in 1999 were more heavily concentrated among employees with higher earnings; in certain professional occupations such as computer programmers and analysts, and occupations in natural and applied sciences; and in industries such as CT and forestry, mining, and oil and gas extraction. Stock purchase plan participants also tended to work in larger workplaces (particularly those with 500 or more employees).

The use of stock purchase plans is still a relatively small phenomenon but government legislation, accounting practices or tax modifications could mean a change. The year 1999 was particularly good for employment and stock market growth; however, more recently, stock purchase plans may have lost their initial allure, especially as stock prices continue to decline.

## Perspectives

### Notes

- 1 Shares from treasury are owned by the company. Shares that are owned by current owners and can be sold directly to employees are shares from the ownership group.
- 2 Vesting refers to any calendar restrictions a stock option holder may have before being able to exercise their stock options. 'Exercise price' or 'strike price' refers to the price at which shares can be purchased.
- 3 Twenty-five percent of companies surveyed (529) in 2001 indicated that they offered stock options to non-management, non-unionized hourly employees, 49% to non-management salaried employees, and 80% to management salaried employees.
- 4 An example of such a bill is HR 2269, *The Retirement Security Advice Act of 2001*.
- 5 The computer and telecommunications (CT) sector is a sub-sector of the information and communication technology (ICT) sector. The CT sector can be seen as a sub-sector or core component of ICT using 12 4-digit NAICS categories (Bowlby and Langlois 2002).
- 6 Only those establishments who responded yes to the question "Did the establishment grant stock options to at least one employee who was not an owner during 1999?" Employees may have been granted stock options other than in 1999, and they are not included in the incidence of stock option granting (Crimmel and Schildkraut 2001).



7 Profit-sharing plans refer to a type of compensation program that makes payments to employees over and above their base salaries or wages. The level of the corporation's profits determines these bonus payments. Productivity gain sharing schemes refer to bonuses for group performance, small team rewards, employee stock ownership plans and stock options.

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# Volunteering on company time

Jacqueline Luffman

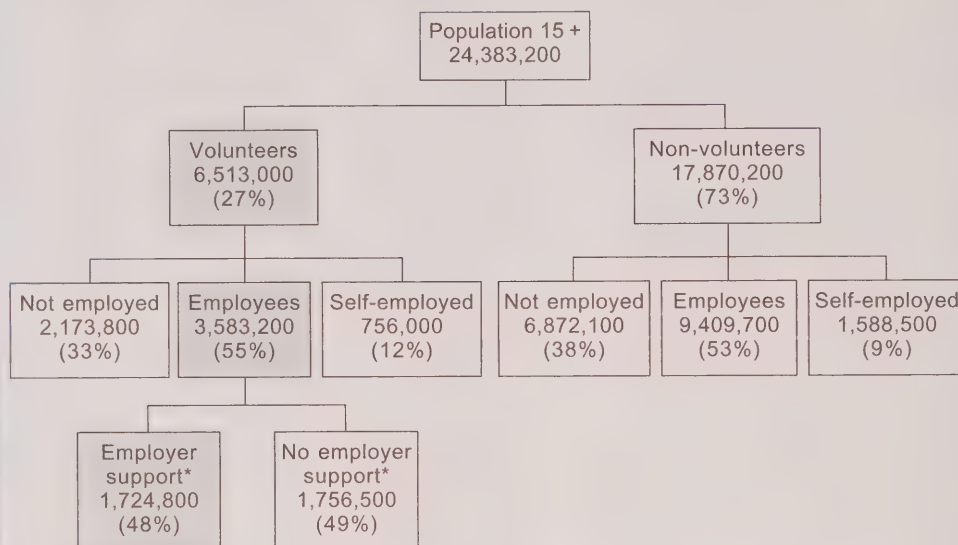
**V**OLUNTEERING HAS ALWAYS been an integral thread in the fabric of society, and today the demands have never been greater. While the needs of volunteer organizations keep increasing, the pool of volunteers keeps shrinking. What can be done to boost volunteering? The increasing numbers of retirees and others not in the labour force may not offer much promise—two-thirds of volunteers in 2000 had a paying job or were self-employed (see *Volunteer population*.)

Volunteering both supplies and reflects social capital.<sup>1</sup> Those who belong to formal and informal social networks are more likely to donate time to voluntary activity (Putnam 2000). Volunteering also promotes a general sense of social responsibility, builds social ties, and contributes to a healthy society. On the other hand, it can take valuable time away from other activities. For the employed, volunteering could be costly in terms of lost earnings.

Demographic changes, such as an aging workforce, and reduced spending by governments are factors demanding more support from society at large—a support that many argue volunteers can in part supply. While employed Canadians do manage to find the time to volunteer, they are increasingly busy people. A

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## Volunteer population



Source: National Survey of Giving, Volunteering and Participating, 2000

\* Figures will not add to total employees because of some non-response.

greater percentage of employees are assuming more responsibilities in both the work and family spheres (such as child care, elder care, single parenting, or working longer hours). To combat a weakening supply of volunteers and an increasing demand for volunteer services, governments have been calling for new ways to encourage, sustain and support volunteerism.<sup>2</sup> Increasingly, employers are being urged to encourage their employees to volunteer—even on company time—since time scarcity is believed to be a significant barrier to volunteering.

Using the National Survey of Giving, Volunteering and Participating (see *Data source and definitions*), this article examines the contribution of employers in supporting volunteering: types of employer support, benefits of employer-supported volunteering, and reasons employees do not volunteer. The focus is on employees only; self-employed workers are excluded.



## What is employer support of volunteering?

Typically, employer-supported volunteer initiatives are integrated into the workplace and entail various levels of involvement and expenditure on the part of the employer (Volunteer Canada 2001). Passive support includes approval to use facilities or equipment for voluntary pursuits, as well as letters of thanks or recognition to individuals who volunteered. More active support includes approval of time off or allowing work hours to be changed to accommodate voluntary activities. Support can be once only, or ongoing.

## Employer-supported volunteering on the rise

In 2000, about 3 in 10 or 6.5 million people 15 and older engaged in volunteer activities, collectively donating over one billion hours of their time. The 2000 survey showed

that the bulk of these hours were being carried out by a declining number of Canadians (Hall, McKeown and Roberts 2001). This was generally true regardless of labour force status or other characteristics such as age and sex. The number of employed volunteers declined 8% between 1997 and 2000, with the greatest decline among those working part time (-17%).<sup>3</sup> On the other hand, hours contributed were up consistently for both those employed and not employed (Table 1).

Just over half of all volunteers were employees. Their volunteer rate was comparable with the overall volunteer rate (28% and 27% respectively), although they gave fewer hours during the year than volunteers who were not employed (140 compared with 191).

While the overall number of volunteers diminished between 1997 and 2000, the proportion with

employer support rose. In 2000, some 1.7 million employed volunteers (about half of all employed volunteers) received at least one form of support. These volunteers tended to give more time (148 hours annually), the equivalent of almost three working days (20 hours) more than their non-supported counterparts. This translated into over 255 million hours of volunteer work that had at least one form of employer support (roughly a quarter of all hours contributed).

The type of support also played an important role. Volunteers with approval to change their working hours or to take time off work gave more hours, 166 and 155 hours respectively, than those who received passive support. Those receiving recognition for their volunteering gave about 142 hours, those receiving approval to use employer facilities about 148 hours (Table 2).

## Many employers give time off and allow use of facilities

Because individuals rather than employers were surveyed, and because only volunteers were asked if they received any employer support, it is not known who may have had employer support available but did not volunteer, nor how many workplaces offered employer support. Thus, the following job characteristics (such as workplace size) refer only to employees who volunteered and reported employer support.

While about half of employed volunteers reported at least one form of employer support, certain types of support were more common than others: use of workplace facilities (57%), time off (57%), and change in work hours to accommodate volunteering (54%).

**Table 1: Volunteers by employment status**

	1997			2000			
	Num- ber	Rate*	Annual hours	Num- ber	Change	Rate*	Annual hours
	'000	%		'000	%	%	
<b>Total</b>	<b>7,472</b>	<b>31</b>	<b>149</b>	<b>6,513</b>	<b>-13</b>	<b>27</b>	<b>162</b>
<b>Employees</b>	<b>3,892</b>	<b>33</b>	<b>134</b>	<b>3,583</b>	<b>-8</b>	<b>28</b>	<b>140</b>
Full-time	2,912	30	133	2,772	-5	26	140
Part-time	980	43	137	811	-17	32	140
Employer support**	1,709	...	163	1,725†	1	...	148
No employer support	2,182	...	112	1,756†	-20	...	128
<b>Not employed</b>	<b>2,618</b>	<b>27</b>	<b>169</b>	<b>2,174</b>	<b>-17</b>	<b>24</b>	<b>191</b>

Source: National Survey of Giving, Volunteering and Participating, 2000

\* The number in a particular category divided by the total population of that group.

\*\* At least one form of support.

† Figures will not add to total employees because of some non-response.

Shaded area: Statistically significant.

**Table 2: Employer support for volunteers**

	Facilities	Time off	Hours change	Recognition	Other
			%		
<b>Overall</b>	<b>57.1</b>	<b>56.7</b>	<b>53.6</b>	<b>43.8</b>	<b>14.1</b>
<b>Firm size</b>					
< 20 employees	54.8	61.5	59.2	40.0	14.5 <sup>E</sup>
20 to 99 employees	59.5	56.4	50.7	44.4	15.5 <sup>E</sup>
100 to 500 employees	58.5	51.8	50.9	49.7	15.0 <sup>E</sup>
Over 500 employees	53.3	53.0	52.0	42.3 <sup>E</sup>	F
<b>Union status</b>					
Member	62.8	48.5	47.0	46.2	11.1 <sup>E</sup>
Not a member	54.0	61.2	57.2	42.6	15.7
<b>Work schedule</b>					
Full-time	60.3	58.6	52.5	44.5	14.3
Part-time	43.9	49.0	58.4	40.9	F
<b>Job status</b>					
Permanent	58.7	56.8	53.8	43.9	13.9
Temporary	43.0	55.9	52.4	43.1	F
<b>Sector</b>					
Public	65.5	51.7	44.8	50.0	9.8 <sup>E</sup>
Private	53.1	59.1	57.8	40.9	16.1
<b>Occupation</b>					
Management	70.7	67.9	63.4	41.2	F
Business, finance and administrative	63.6	60.4	55.8	41.8	20.6 <sup>E</sup>
Natural and applied sciences	54.2 <sup>E</sup>	58.8 <sup>E</sup>	F	F	F
Health	42.7 <sup>E</sup>	43.1 <sup>E</sup>	56.6 <sup>E</sup>	39.6 <sup>E</sup>	F
Social science, education and religion	71.3	44.1	38.7	51.2	F
Art, culture and recreation	F	F	F	F	F
Sales and service	44.5	54.3	60.3	45.7	15.4 <sup>E</sup>
Trades, transport and equipment operators	58.5 <sup>E</sup>	63.6 <sup>E</sup>	49.9 <sup>E</sup>	42.6 <sup>E</sup>	F
Primary, processing, manufacturing and utilities	42.8	64.2 <sup>E</sup>	51.9 <sup>E</sup>	35.8 <sup>E</sup>	F
Organizations volunteered	1.9	1.8	1.9	1.8	2.1
Hours volunteered	147.5	154.7	165.9	141.6	149.4

Source: National Survey of Giving, Volunteering and Participating, 2000

Note: Percentages do not add to 100% because of multiple responses.

In the smallest workplaces (less than 20 employees), employer support most commonly took the form of time off and changing work hours. While such active types of support were also prevalent in the largest workplaces (over 500 employees), the likelihood of support was generally less. About

60% of employer-supported volunteers in small workplaces reported approval for time off, compared with 53% in the largest ones. Similarly, 59% of employer-supported volunteers in small workplaces reported approval to change work hours, compared with 52% in the largest workplaces.

A high proportion of unionized volunteers reported use of facilities as the most common type of employer support (63%), whereas non-unionized volunteers reported time off work (61%).

While management occupations encompass a wide variety of skills and jobs (ranging from retail sales managers to senior executives), the greater ability of managers in general to have authority and job control seems to provide access to certain forms of employer support. A large percentage of managers with at least one form of employer support reported approval to use facilities (71%), take time off work (68%), or change work hours (63%). On the other hand, only about 40% received recognition for their volunteer efforts.

Traditionally, certain occupations have tended to have high volunteer rates. Social service, education and religion workers had a volunteer rate of 50%, almost double the Canadian average.<sup>4</sup> The most common type of support for these workers was use of facilities (71%), while they were less likely than managers to report approval for time off work (44%) or changing hours (39%).

### Volunteering benefits volunteers

One benefit of volunteering is the variety of skills that can be gained and then used at work. One study found that skills acquired through volunteering added to an individual's stock of human capital. On average, volunteers earned about 7% more than non-volunteers, after controlling for other factors such as occupation, education, industry, age, and labour force experience (Day and Devlin 1998).



## Data source and definitions

The **National Survey of Giving, Volunteering and Participating** (NSGVP) is the most extensive Statistics Canada survey on these topics to date. It was conducted in November and December 1997 and 2000 as a supplement to the Labour Force Survey (LFS). The survey built on 1987 work on volunteering and also introduced questions on financial giving and civic participation. The resulting data are representative of Canadians aged 15 and over.

Only those who volunteered were asked if they received employer support. Consequently, it is not known how many workers had employer support available to them but did not volunteer, nor how many workplaces offered support. The 1987 Survey of Volunteer Activity did not ask any questions about employer support.

**Volunteer:** An individual who willingly performed a service without pay through a group or organization during the 12-month reference period preceding the survey.

**Employed volunteer:** A volunteer who also worked for a private firm or business; a local, provincial or federal government; or a government service or agency during the LFS reference week. The self-employed were excluded from this study.

**Non-employed volunteer:** A volunteer who was not in the labour force or was unemployed.

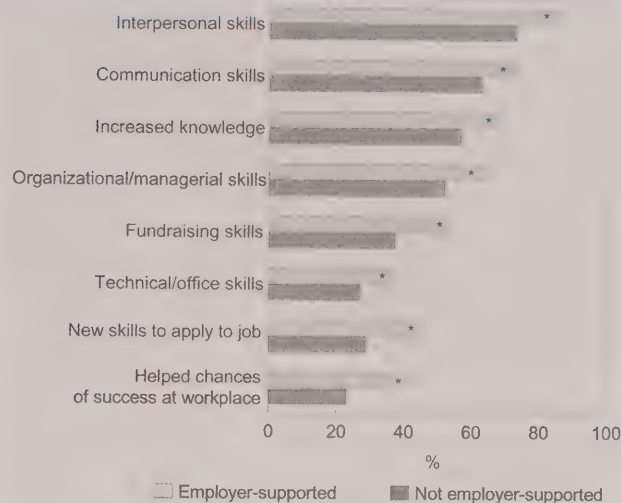
**Employer-supported volunteer:** A volunteer answering yes to at least one of the following:

Did your employer give you...

1. approval for use of facilities or equipment for your volunteer activities?
2. approval to take time off or the opportunity to spend some time doing volunteer work while on the job?
3. approval to change work hours to spend time volunteering?
4. recognition or a letter of thanks for your volunteer activities?
5. other formal support for your volunteer activities (examples: donating prizes, sponsoring an event, donating financially to the organization)?

Employer-supported volunteers in 2000 were more likely than their non-supported counterparts to report that volunteering helped them acquire skills directly applicable to their current job—46% compared with 29% (Chart A). In addition, 41% of employer-supported volunteers reported that volunteering helped their chances of success in their paid job. Other benefits reported included acquiring better interpersonal, communication, managerial, technical and fundraising skills.<sup>5</sup>

**Chart A: Employer-supported volunteers were significantly more likely to report increased skill acquisition and job benefits.**



Source: National Survey of Giving, Volunteering and Participating, 2000

Note: Employees only.

\* Statistically significant difference at <.05 level.

The skills gained through volunteering can benefit the employer as well. Employees who acquire new skills may improve their sense of self-worth and thereby offer their employer a more productive employee (Volunteer Canada 2001). Considering costs in the form of time and wages, the return on investment is important to the employer. Although benefits may not be strictly quantitative, the overall improved morale and working environment are cited as important spin-offs. In addition, companies may see volunteer support as a useful recruitment tool or a chance to equip their staff with new skills.

## Employed but not volunteers

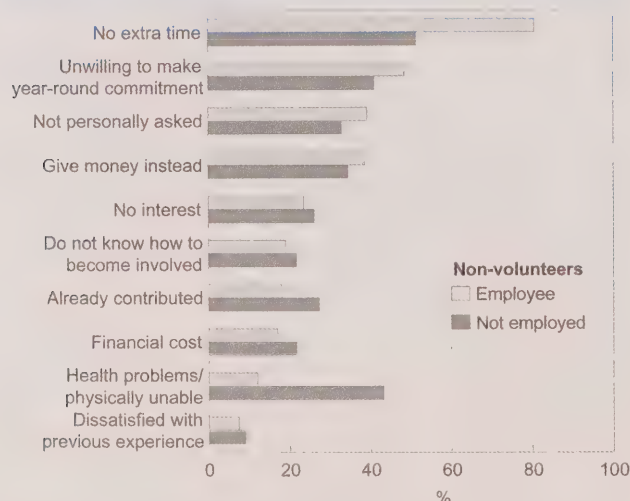
Many employees might volunteer if they had the support of their employer. Among those who did not volunteer in 2000, it is not known how many had employer support available to them. While the decision to volunteer is influenced by an interplay of socio-demographic and economic circumstances (see *Volunteer rates*), employers could help on a number of fronts. For example, lack of time is usually considered the biggest barrier, and was the reason given by 81% of

employed non-volunteers, compared with 51% of those not employed (Chart B). Half of employed non-volunteers were also unwilling to make a year-round commitment—also time-related.

A similar national survey conducted in the United Kingdom in 1997 found that among workers who were not offered employer support, 40% said they would have been interested in volunteering if support had been available. Those who did not participate in an employer-supported initiative were asked what would have made them more likely to become involved. The key factors were time off work, knowing that the activity would benefit their career, learning new skills, volunteering as part of a group, and more information about available opportunities (IVR 1997).

Employers could also assist by helping individuals who wish to volunteer but do not know where or how. About 20% of employed Canadians did not know how to become involved, and 39% did not volunteer because no one asked them (up from 35% in 1997). Being asked to volunteer is the single most important factor in determining volunteer activity (Freeman 1996). A U.S. survey found that the volunteer rate among those asked to volunteer was four times greater than among those not asked (Independent Sector

**Chart B: Lack of time is a barrier to volunteering for many workers.**



Source: National Survey of Giving, Volunteering and Participating, 2000

## Volunteer rates

Generally speaking, volunteering varies according to life circumstances. Among the employed in 2000, the volunteer rate tended to peak in the middle years (45 to 54) whereas among the non-employed, volunteering was highest among youth (15 to 24). The non-employed youth volunteer rate rose 1.8 points from 1997 to 2000, likely the result of recent education initiatives in many provinces.<sup>6</sup> Employed volunteers were more likely than those not employed to be married and have children at home. Also, employed women were more likely to volunteer (30%) than employed men (25%), while non-employed men and women were equally likely (24%).<sup>7</sup> For more information, refer to the highlights from the 2000 National Survey of Giving, Volunteering and Participating (Hall, McKeown and Roberts 2001).

	Total	Em- ployee	Not employed
		%	
<b>All ages</b>	<b>26.7</b>	<b>27.6</b>	<b>24.0</b>
15 to 24	29.0	24.6	34.8
25 to 34	23.6	23.2	20.7
35 to 44	29.8	29.9	26.0
45 to 54	30.1	32.7	21.7
55 to 64	27.8	25.8	28.2
65 and over	18.4	F	18.1
Newfoundland and Labrador	31.5	35.0	27.7
Prince Edward Island	36.5	37.5	34.6
Nova Scotia	33.8	35.5	30.4
New Brunswick	28.7	29.2	25.8
Quebec	19.1	18.7	19.3
Ontario	25.5	26.2	22.2
Manitoba	36.3	38.6	32.8
Saskatchewan	42.3	45.4	38.5
Alberta	39.2	39.1	37.1
British Columbia	26.0	28.6	22.0
Men	25.2	25.4	24.0
Women	28.1	30.1	24.1
Less than high school	18.6	19.0	18.1
High school graduate	22.6	21.8	22.4
Some post-secondary	33.2	33.8	30.0
Post-secondary diploma	28.2	27.0	29.4
University degree	38.6	38.5	37.8
Married	28.2	30.0	23.8
Single	25.6	22.7	29.7
Other	21.3	26.8	17.4
With children under 18	32.1	32.9	26.0
No children under 18	24.4	24.5	23.7
<b>Household income</b>			
< \$20,000	16.7	16.8	15.8
\$20,000 - \$39,999	21.1	20.2	21.4
\$40,000 - \$59,999	26.3	24.3	29.0
\$60,000 - \$99,999	32.4	32.9	29.7
\$100,000 +	38.8	36.0	44.2

Source: National Survey of Giving, Volunteering and Participating, 2000.

Note: Rates are calculated as the number in a particular category divided by the total population of that group.



1999.) Social pressure may also play a role. And if a boss asks an employee to volunteer, it is more likely that the employer will support volunteer efforts, particularly in community activities that the employer already sponsors. Personal motivation is also strongly linked to volunteering. Only about a quarter of employed workers indicated they had no interest at all in volunteering, 12% had poor health, and only 7% indicated they were dissatisfied with their previous volunteering experience.

## Summary

Undoubtedly, time pressures have accelerated over the last decade. For many, hours in paid work have increased. So too have non-work demands, as the proportion of working Canadians caring for children or seniors continues to rise. While over half of workers feel rushed every day (according to the 1998 General Social Survey), employed Canadians are still actively involved in volunteering, even more so than those with theoretically more time on their hands. When accompanied by employer support, employed volunteers are likely to devote more hours to their efforts—about 255 million hours or 24% of total volunteer hours in 2000.

The type of employer support varies by job characteristics. For example, the smallest workplaces seem more amenable to changing employee work hours or allowing time off (as reported by employer-supported volunteers). While unionized employer-supported volunteers tended to report more passive forms of support, recent initiatives may encourage more volunteering. Members of the Public Service Alliance of Canada (a federal government union) are now entitled to one day of paid volunteer leave per year.

The benefits of employer support to the worker, and ultimately the employer, are evident. Ancillary job benefits were reported more by employer-supported volunteers than by their non-employer-supported counterparts. In addition, employers may be influenced to support worker volunteer efforts to promote a positive public image and to retain staff.

It seems plausible that employers who support employee volunteer efforts are likely to attract individuals who are already motivated to volunteer. Since time is cited as the biggest barrier to volunteering, employers who allow flexible work arrangements may

be lessening the tension between work and outside interests, thereby allowing motivated people more time to pursue voluntary activities.

## Perspectives

### ■ Notes

1 Social capital refers to features of social organization such as networks, norms, and social trust that facilitate co-ordination and co-operation for mutual benefit. They are the relationships that shape the quality and quantity of a society's social interactions.

2 An example is the Canada Volunteerism Initiative, an accord between the Government of Canada and the voluntary sector to promote volunteerism. For more information, see *The Canada Volunteerism Initiative: The Report of the National Volunteerism Initiative Joint Table*, December 2001. Available at [www.vsiisbc.ca/eng/cvireport](http://www.vsiisbc.ca/eng/cvireport).

3 It is difficult to determine if there has been a declining trend in volunteering. Differences between 1997 and 2000 represent only a short period of time. In 1987, the overall volunteer rate was 26.8%, lower than in 1997 (31.4%) but about the same level as in 2000 (26.7%). Recent analysis shows that 1997 was a particularly good year for volunteer participation and in fact, the number of people exiting voluntary activity after 1997 was high. The overall result appears to indicate a continuing decline in volunteer participation (as measured by various rates and hours contributed). The year 1997 might have been more of an adaptation to social and economic conditions rather than a deep-seated change in volunteer behaviour (Reed and Selbee 2000).

4 Self-employed workers are not included in this occupational category.

5 Self-employed volunteers (individuals who have no employer to support them) exhibited similar ranking of benefits; however, they were less likely to report that their skills helped their chances of success, or that the skills were directly applicable to their job, or that they learned fundraising skills.

6 In certain provinces, volunteering is mandatory for high school graduation.

7 All these reported differences are statistically significant.

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# Health-related insurance for the self-employed

Ernest B. Akyeampong and Deborah Sussman

ONE INTERESTING DEVELOPMENT in the labour market in the 1990s was the rapid growth of self-employment relative to paid employment. According to the Labour Force Survey, between 1990 and 1997, self-employment accounted for almost 75% of total net job growth. Although the pace of growth slowed thereafter, self-employment constituted 16% of total employment in 2000, up from 14% in 1990. An overwhelming majority of the newly self-employed were entrepreneurs working on their own without any paid help—often referred to as the own-account self-employed (Lin, Yates and Picot 1999).

Many factors drive people to become self-employed (Statistics Canada 1998). On the one hand, people may feel forced into this arrangement because no other work is available—the push theory. On the other hand, they may be attracted by features self-employment can offer—the pull theory—for example, the independence of being one's own boss or the ability to work flexible hours or from home. Whatever the motivation, self-employment carries some risks—lack of income security is often cited as a major one. The Survey of Self-employment (SSE) shows that the risk of having few or no non-wage benefits is also very real (see *Data sources and definitions*). Indeed, approximately 7% of the self-employed cited this drawback as the most disliked aspect of their situation (Delage 2002).

Unlike employees, many of whom are covered by employer-sponsored extended health, dental, or disability insurance plans (Akyeampong 2002), the self-employed can only acquire such coverage through three main avenues: direct purchase (often at considerable cost), using their own financial resources; piggybacking on a spouse's or other close family member's plan; or other means such as membership in an association, a second paid job, or a franchising

arrangement. These sources are also open to employees not covered by employer-sponsored plans. The Survey of Labour and Income Dynamics shows that in the year 2000, approximately 50% of employees had coverage in all three plans through employer-sponsored programs alone (Marshall 2003b)—almost three times the proportion (17%) of self-employed with similar coverage through one or more of the three sources listed above.<sup>1</sup>

## Data sources and definitions

The **Survey of Self-employment (SSE)** was sponsored by Human Resources Development Canada and conducted as a supplement to Statistics Canada's monthly Labour Force Survey during April 2000. The SSE covered workers 15 to 69 years of age who were self-employed in their main job during the reference week. Full-time students and those who, on average, worked less than 11 hours per week were excluded.

The **self-employed** are divided into two groups. The first, consisting of working owners of incorporated businesses, farms or professional practices, accounted for 38.1% of the weighted population. The second group, constituting 61.9%, was made up of working owners of unincorporated businesses, farms, professional practices, and other self-employed who did not have a business (for example, individuals selling goods directly to customers from their home), nannies, housecleaners, tutors, translators, and consultants without an office. Unpaid family workers were not part of the survey's target population. While the designation of self-employment was based on the main job, some workers also had a second paid job.

**Extended health insurance** covers services excluded under publicly funded provincial health plans.

**Dental insurance** covers some portion of dental services, usually with annual and longer-term maximums.

**Disability insurance** provides financial protection in the event the insured person is prevented from economic activity because of injury or disability.

**Business income** for an unincorporated business is net income before taxes and deductions. (In the case of partnership, only the respondent's share is taken into account.) In the case of an incorporated business or professional practice, business income is defined as gross personal income before taxes and deductions.

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Non-coverage in any or all of these health-related insurance plans can jeopardize the financial security of any worker and their dependants, but for the self-employed the damage can be more serious. For example, while many uninsured employees qualify for Employment Insurance (EI) sickness and maternity benefits, the self-employed do not. In 2000, employees entitled to EI maternity benefits took longer to return to work following childbirth (six months on average) than their self-employed counterparts (one month on average) (Marshall 2003a). Similarly, while a sick or disabled employee could lose some or all of their employment income, their self-employed counterpart could lose not only income but the business as well.<sup>2</sup> Indeed, 22% of the self-employed cited uncertainty and insecurity as the most disliked aspect of self-employment, and another 12% cited income fluctuations and cash flow problems.<sup>3</sup>

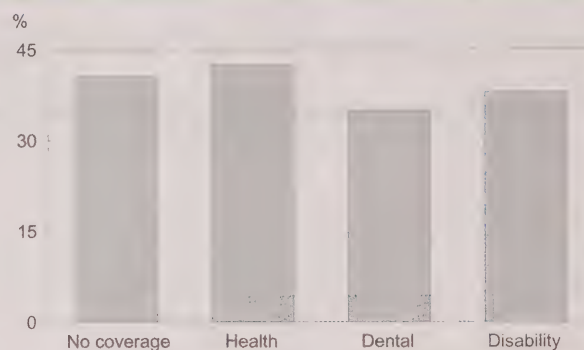
Using the SSE, this article expands on an earlier study on coverage rates and sources among the self-employed with respect to extended health, dental, and disability insurance plans (Delage 2002). It also examines reasons for non-coverage. Particular attention is paid to those with full coverage (all three plans) and those without coverage in any plan.

#### Four in 10 had no insurance coverage whatsoever; 1 in 6 had full coverage

In 2000, a sizeable proportion (41%, or 844,000 of the nearly 2.1 million self-employed Canadians) had no coverage in any of the three health-related insurance plans (Chart A). About 42% had coverage in an extended health insurance plan. Rates for the remaining two plans were lower: 38% for disability and 35% for dental.<sup>4</sup> Only 17% (348,000) had coverage in all three plans (Chart B). An additional 22% (460,000) were covered by two plans, and the remaining 21% (427,000) by only one plan.

Those with coverage in only one plan most commonly purchased disability—slightly more than two-thirds (294,000) (Chart B). The reasons are not surprising. Of the three plans, disability is perhaps the one for which non-coverage carries the heaviest financial consequences, especially if the disability is long-lasting or permanent. Also, Canada has a fairly comprehensive medicare program, and dental care programs are probably relatively less used. These factors contribute to making disability coverage a more attractive choice when affordability is an issue.

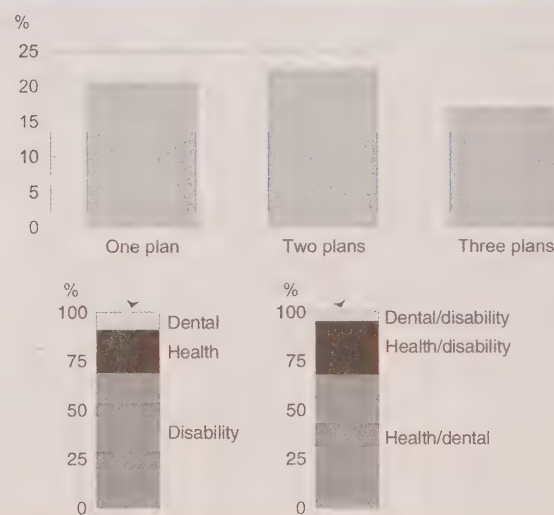
**Chart A: Four in 10 self-employed had no insurance coverage whatsoever.**



Source: Survey of Self-employment, 2000

For those with coverage in two plans, the most popular combination was health and dental (about 315,000 self-employed workers), with many benefiting through extended spousal or family coverage.

**Chart B: Only 1 in 6 of the self-employed had full insurance coverage.**



Source: Survey of Self-employment, 2000



## Spousal membership in plan most important coverage source

In the SSE, the self-employed were asked about sources of coverage for health and dental plans, but not disability plans. Health and dental plans, unlike disability plans, can often extend coverage to the self-employed through the plan of a spouse or close relative. The usual way for the self-employed to acquire disability coverage is through direct purchase or membership in an association.

For the insured self-employed, coverage source patterns for health and dental plans did not differ greatly. For both types of plans, the most common source was coverage through the plan of a spouse or close relative—about 44% in extended health plans and 53% in dental plans (Table 1). Direct purchase through own resources was the second major source. More than one-quarter of the insured self-employed (27%) purchased coverage for health and one-fifth (21%) for dental. Purchasing a plan through an association membership (for example, university alumni) was cited as the third major source—about 1 in 6 (16%) for health plans and 1 in 7 (14%) for dental plans. For both plans, another 1 in 20 (5%) obtained coverage through a sec-

ond paid job. Only a handful obtained coverage through franchising arrangements (such as holding a McDonald's franchise).

## Lack of money major reason for non-coverage

Approximately 1.2 million (58%) self-employed reported having no extended health insurance coverage in 2000. The levels were slightly higher for dental care (1.4 million or 65%) and for disability (1.3 million or 62%).

As with coverage sources, the ranking of reasons for non-coverage was fairly similar for the three insurance plans. The most common was affordability, cited for each plan by approximately 40% of the non-insured self-employed (Table 1). Second was the belief that the coverage premium did not command good value. About one-quarter cited this reason for health and dental, with a slightly lower proportion (17%) for disability. The lower percentage for disability is in line with the hypothesis that non-coverage in disability insurance potentially carries the most serious financial consequences. Approximately one-fifth of the non-insured in each plan had 'not thought about it.' The remaining 15% to 20% had either kept putting off a purchase, been disqualified (disability plans only), or believed that they simply did not need coverage.

**Table 1: Insurance coverage of the self-employed**

	Health	Dental	Disability
	'000		
<b>Self-employed</b>	<b>2,078</b>	<b>2,078</b>	<b>2,078</b>
<b>Covered</b>	<b>881</b>	<b>722</b>	<b>787</b>
	%		
Spousal or family plan	44.2	52.6	...
Direct purchase	26.8	21.1	...
Association membership	15.7	14.0	...
Paid job	5.3	4.8	...
Franchise arrangement	F	F	...
Other	6.3	6.1	...
	'000		
<b>Not covered</b>	<b>1,196</b>	<b>1,353</b>	<b>1,285</b>
	%		
Cannot afford	40.6	40.6	39.5
Not good value	23.1	25.0	17.2
Not thought about it	20.6	19.9	22.2
Keep putting off	7.0	5.7	9.6
Do not qualify	...	...	3.7
Other	3.7	4.1	2.9
No need	4.9	4.8	5.1

Source: Survey of Self-employment, 2000

## Business income goes hand in hand with full coverage

As would be expected, business income appears to be a major determinant of full coverage—that is, the odds of full coverage increased with income. In 2000, the self-employed with income of \$60,000 or more were almost 5 times as likely as those with less than \$20,000 to have coverage in all three plans (36% versus 8%) (Table 2). A reverse picture was painted for nil coverage; only 24% of the highest income self-employed workers had no coverage, about half the rate (48%) for the lowest income group. Indeed, of the various socio-demographic groups analyzed, the group earning business income of \$60,000 or more was the only one for whom the full coverage rate exceeded the nil coverage rate. For all the other groups, the proportion with full coverage was much lower.

Full coverage was also more common among the married self-employed. About 19% had full coverage, almost twice the rate among their unmarried counterparts (9%). The married group owed their advantage

**Table 2: Full and nil coverage of the self-employed by selected characteristics**

	Full coverage		Nil coverage	
	'000	%	'000	%
<b>Both sexes</b>	<b>348</b>	<b>16.7</b>	<b>844</b>	<b>40.6</b>
Men	262	18.5	539	38.2
Women	86	12.9	304	45.6
15 to 24	F	F	26	53.8
25 to 34	49	13.9	152	42.8
35 to 44	114	17.0	273	40.6
45 to 54	128	20.5	247	39.6
55 and over	52	13.7	145	38.4
Less than high school	42	11.6	172	47.1
High school	51	12.8	163	40.5
Some or complete postsecondary	126	15.3	355	42.9
University	127	26.4	153	31.7
Married	308	18.5	611	36.8
Not married	56	9.4	332	56.1
<b>Economic family</b>				
1 person	27	10.8	139	55.6
2 persons	99	16.1	240	39.0
3 persons	65	17.1	148	38.9
4 persons	86	17.2	202	40.4
5 persons or more	71	21.2	115	34.7
<b>Business income</b>				
Less than \$20,000	36	7.9	222	47.9
\$20,000 – \$39,999	66	11.3	250	42.9
\$40,000 – \$59,999	72	25.0	91	31.6
\$60,000 or more	131	36.2	88	24.3
<b>Time self-employed</b>				
Less than 2 years	51	13.4	188	49.3
2 to 4 years	64	15.2	180	42.5
5 to 9 years	67	15.3	183	41.8
10 to 19 years	101	21.0	165	34.5
20 years or more	64	18.5	121	35.3

Source: Survey of Self-employment, 2000

in part to spousal coverage being extendable to partners. The full coverage rate for men (19%) also exceeded that for women (13%), partly because of the generally higher incomes of men. Additionally, the full coverage rate tended to rise as economic family size increased, doubling from 11% among one-person families to 21% among families of five or more. This is not surprising since having children may heighten the perceived need for insurance.

The full coverage rate tended to rise with education, age (up to 54), and job tenure (up to 19 years). All these factors have a strong positive relationship with

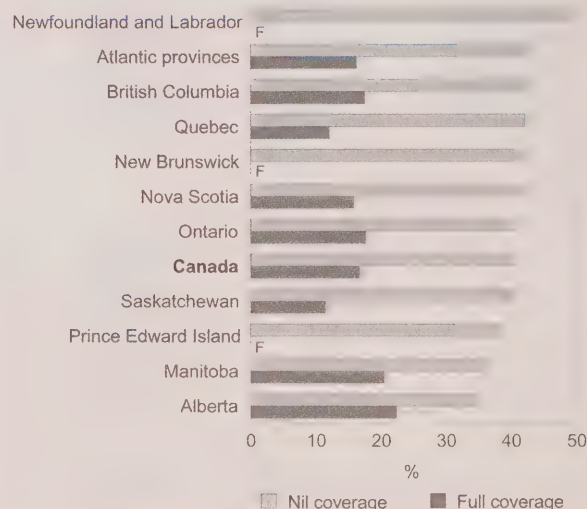
income, adding further credence to the earlier finding that affordability is a major determinant of full coverage. The likelihood of nil coverage generally declined with education, age and job tenure.

### Full coverage rate highest in Alberta, lowest in Saskatchewan

Coverage rates differed by province, partly because of the different services covered by provincial health-care plans (Chart C).<sup>5</sup> For example, while Quebec residents are covered by a prescription drug plan, this is not the case in many other provinces. Differences in the industry mix among provinces may also have played a role. The self-employed in Alberta and Manitoba registered the highest full coverage rates (22% and 21% respectively); those in Saskatchewan and Quebec (12%) recorded the lowest (Chart C). In contrast, the nil coverage rate was highest in Newfoundland and Labrador (49%), and lowest in Alberta (34%).

### Full coverage highest in professional services, nil coverage highest in accommodation and food services

Coverage rates also differed by industry and occupation.<sup>6</sup> Among the major industries, professional, scientific and technical services (26%), and finance, insurance

**Chart C: Nil coverage was highest in Newfoundland and Labrador and lowest in Alberta.**

Source: Survey of Self-employment, 2000



and real estate (23%) had the highest full coverage rates (Table 3). Many of the self-employed in these two industries purchased their plans through membership in a professional association. Also, because multiple jobholding is prevalent among workers in these industries, some acquired coverage through their second, paid job. In contrast, agriculture and other primary (9%) had the lowest full coverage rates.

Accommodation and food services (68%) had the highest nil coverage rate, perhaps partly because of affordability problems among these workers. Manufacturing (29%), and health care and social assistance had the lowest rates (27%).

**Table 3: Full and nil coverage of the self-employed by industry**

Industry	Full coverage		Nil coverage	
	'000	%	'000	%
Agriculture and other				
primary	21	9.5	86	38.6
Construction	51	19.4	109	41.0
Manufacturing	F	F	27	29.4
Trade	47	16.1	107	37.1
Transport and warehousing	24	18.9	48	38.3
Finance, insurance and real estate	25	23.0	40	37.8
Professional, scientific and technical	81	25.7	113	35.8
Management, administrative and other support	F	F	74	58.1
Educational services	F	F	F	F
Health care and social assistance	32	18.8	46	26.5
Information, culture and recreation	F	F	29	50.2
Accommodation and food services	F	F	56	68.2
Other services	18	9.7	91	49.3
Public administration	...	...	...	...
Utilities	...	...	...	...

Source: Survey of Self-employment, 2000

## Conclusion

Compared with employees, the self-employed are less likely to be covered by extended health, dental and disability insurance plans. Since the self-employed are not entitled to EI sickness or maternity benefits, they are also more likely to feel greater financial pain should

they be prevented from working for these reasons. A large proportion of the self-employed acquire coverage in health and dental plans through the employer-sponsored plan of a spouse or close relative. For those not so lucky, direct purchase appears to be the most feasible option. While this is not normally a problem for the high-income self-employed, those less well off (usually the young and less educated) very often go without any health-related insurance coverage whatsoever.

## Perspectives

### ■ Notes

1 In effect, the 17% full coverage rate represents the maximum possible for the self-employed, and the 50% rate understates the maximum possible for employees, since the three major coverage avenues open to the self-employed are available to employees as well.

2 The self-employed also tend to participate less in RRSPs. For example, in 1996, 35% of the self-employed purchased an RRSP compared with 43% of employees (Akyeamong 1999).

3 Despite this, more than half (55%) of the SSE respondents expressed no interest in subscribing to an income insurance program like EI (Delage 2002).

4 As expected, coverage rates were lower for the own-account self-employed (those without paid help) than for employers (those with paid help) since the latter often took advantage of economies of scale to purchase plan subscriptions. For example, about 3 in 10 of the own-account had dental plan coverage compared with 4 in 10 for employers (Delage 2002). The own-account constituted 54% of the total self-employed population; the remaining 46% were employers.

5 For more detailed information on provincial health plans, see "Health care services—recent trends." *Health Reports* (Statistics Canada, Catalogue no. 88-003-XPB) 11, no. 3, Winter 1999.

6 The coverage rates by occupation highly mimicked those by industry and hence are not repeated in this study. Another reason for omitting the occupational data is that meaningful comparisons could not be made since a very high concentration (65%) of self-employed were in managerial and service occupations while the rest were scattered in the other occupations.

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# What's new?

## *Recent reports and studies*

### ■ JUST RELEASED

#### ■ *Young Canadian graduates*

College diplomas and bachelor's degrees consistently proved their value to young Canadians who entered the labour market throughout the 1990s, according to a new study.

The study uses the National Survey of Graduates to examine labour market outcomes for young college and bachelor graduates in the classes of 1986, 1990 and 1995 who entered their programs directly from high school.

Young college and bachelor graduates continued to do well when it came to getting not just a job, but a good job. Generally, university graduates got better-paying jobs. Both college and bachelor graduates from engineering and related fields of study consistently landed higher-paying jobs.

Two years after graduation, college graduates had higher employment rates than bachelor graduates. For the classes of 1986 and 1990, bachelor graduates caught up after five years. This was not the case for the class of 1995; the difference in employment rates diminished by 2000, but young college graduates were still more likely to have a job. The longer transition to employment for bachelor graduates was partly because some bachelor graduates continued with further education.

Bachelor graduates' unemployment rates were somewhat less sensitive than those of college graduates to shifts in labour market conditions. Their unemployment rates remained relatively low during the 1991 recession, an indication that a higher level of education tends to help insulate individuals from the effects of economic downturns.

Even though young college and bachelor graduates in the class of 1995 owed more at graduation than the 1990 graduates, they were paying those loans off at a faster rate than the class of 1990.

Given the lengthier program requirements and higher tuition fees at universities, the levels of student debt were 42% higher for the 1995 bachelor graduates than for the college graduates.

College graduates in the class of 1995 owed on average \$8,300 in government loans, up 57% from the \$5,300 owed by graduates in the class of 1990. Bachelor graduates owed \$11,800, which was 34% more than the \$8,800 owed by 1990 graduates.

Young college and bachelor graduates of the class of 1995 had paid off just over a quarter of the loan within two years after graduation, which was considerably less than for 1990 graduates (40% of loans repaid for college, and 34% for bachelor). Five years after graduation, however, both had paid back 55% of their original loan, almost as much as the class of 1990.

Graduates' ability to repay student loans is affected by a variety of factors such as interest rates, labour market conditions and the amount of any other debts they hold.

The survey asked graduates at two and five years after graduation if they had any difficulty in paying back their loans. Although the overwhelming majority did not report any difficulties, the 1995 graduates were more likely to indicate difficulties than the young graduates of the class of 1990.

Of the 1990 college graduates, 8% reported difficulties two years after graduation; this increased slightly to 11% five years after graduation. College graduates from the class of 1995 were more likely than the class of 1990 to report difficulties in repaying their loans both two and five years after graduation: 13% experienced problems within two years after graduating, as did 16% in 2000.

Among 1990 bachelor graduates, 15% reported difficulty two years after graduation, as did 13% five years out. In the case of 1995 bachelor graduates, 20% experienced problems within two years after graduation, but this dropped to 16% after five years.

The best paying disciplines for bachelor graduates in the class of 1995 were engineering and applied sciences with median earnings of \$56,000 in 2000, and mathematics and physical sciences with median earnings of \$54,000.

Engineering and related fields of study consistently paid the best for both college and bachelor graduates. Median earnings in 2000 for college graduates in engineering and applied sciences in the class of 1995 were \$40,000, which was the same as for bachelor graduates overall.

Despite major differences in the economic climate faced by the graduates in this study, at least 85% of the college and 80% of the young bachelor graduates from all three classes were working two years after graduation. Five years out, 94% of the 1995 college graduates had jobs, compared with 90% of bachelor graduates.

Unemployment rates for bachelor graduates were somewhat less sensitive than those of college graduates to shifts in labour market conditions. The pattern of unemployment during favourable and unfavourable labour market climates for community college graduates was similar to that of all youth aged 20 to 24 and 25 to 29, whereas for bachelor graduates, labour market prospects seemed less affected by changes in overall labour market conditions.

Although more study is required, it seems that higher levels of education may help insulate individuals from the effects of economic downturns. In fact, for the class of 1986, although college graduates faced higher unemployment rates going into the recession, unemployment rates for bachelor graduates actually fell.

The report *Finding their way: A profile of young Canadian graduates* (81-595-MIE, no. 3, free) is available on Statistics Canada's Web site ([www.statcan.ca](http://www.statcan.ca)). From the *Our products and services* page, under *Browse our Internet publications*, choose *Free*, then *Education*.

For more information, contact Client Services, Culture, Tourism and the Centre for Education Statistics, at 1 800 307-3382 or (613) 951-7608; fax: 613-951-9040; [educationstats@statcan.ca](mailto:educationstats@statcan.ca).

## ■ *Earnings of Canadians*

Canada entered the 21st century with a population better educated than ever, according to new data from the 2001 Census. The hallmark of the 1990s was the tremendous growth in the number of Canadians with a college or university education, a trend that began at the end of the Second World War.

Average annual earnings surpassed \$30,000 for the first time in 2000, as working Canadians began reaping the benefits of globalization and the knowledge-based economy. Average earnings among the more than 16.4 million people aged 15 and over who had employment income in 2000 were \$31,757, up from \$29,596 in 1990 and \$29,229 in 1980.

The 7.3% gain in average earnings during the past decade was the result of three factors: the demand for highly skilled workers in the face of advancing technologies and globalization, an aging workforce of baby boomers who experienced substantial gains in earnings during the decade, and more working people with university education.

As a result, the number of earners in higher income brackets—\$80,000 or more a year and especially \$100,000 or more—soared during the 1990s. At the same time, 4 out of every 10 people with employment income made \$20,000 or less, essentially the same proportion as in 1990.

In 2000, women aged 15 and over who had employment income made 64 cents for every dollar earned by their male counterparts, compared with 52 cents in 1980 (the gap was smaller for younger women).

Higher education is a gateway to higher earnings. More than 60% of people in the lowest earnings category did not have more than a high school education in 2000, while more than 60% of those in the top category had a university degree.

Older groups with higher education and more work experience made the most significant earnings gains. A clear generational divide has opened up in the labour market with younger groups on a lower earnings track than older, more experienced groups.

Recent immigrants earned substantially less than their Canadian-born counterparts even after 10 years in the country. This was true for both immigrants with low levels of education and those with a university degree.



Three developments set the stage for advances in education between 1991 and 2001: first, a labour market preference for skilled workers to compete in a global and technologically advanced economy; second, immigration rules designed to attract highly skilled immigrants; and third, the recession of the early 1990s that was particularly difficult for Canadian youth.

The increases in education were dramatically apparent for those aged 25 to 34. People from this generation were aged 15 to 24 when the recession of the 1990s hit. Many of them may have opted to stay in school rather than face uncertain prospects in the labour market.

According to the 2001 census, 28% of individuals aged 25 to 34 had university qualifications and 21% held a college diploma. Another 12% had trade credentials. In all, 61% of this age group had qualifications beyond high school. In comparison, in 1991 only 49% had postsecondary credentials.

This growth has shifted the education profile of the adult population (25 and over). From 1991 to 2001, the proportion of adults with university credentials grew from 15% to 20%. Another 16% had a college diploma in 2001, up from 12% a decade earlier. The proportion with a trade certificate remained stable at 12%.

Education levels rose for both men and women. In 2001, 21% of men 25 and over were university graduates, up from 17% in 1991. The proportion of male college graduates increased from 10% to 13% over the decade.

The growth among women was even greater—the proportion of university graduates jumped from 14% in 1991 to 20% in 2001. About 18% had college credentials in 2001, up from 14%.

In all, the number of Canadians aged 25 and over with university, college or trade credentials grew by 2.7 million, a 39% increase and more than 2.5 times the population growth for that same age group.

In 2001, 1.1 million people in the working-age population (25 to 64) had doctorates, master's degrees or other qualifications above the bachelor level, such as degrees in law, medicine, dentistry and veterinary science. This was a 50% increase from 1991.

In terms of field of study, changes during the decade reflect increasing numbers of students choosing technology and business fields. Of the 1.2 million increase in university graduates from 1991 to 2001,

about 12% or 154,000 graduated in business and commerce. Another 11% or 133,000 studied engineering.

Six in 10 immigrants of working age who arrived in the 1990s had trade, college or university credentials in 2001.

Detailed analysis of these 2001 census data is presented in two online reports, *Earnings of Canadians: Making a living in the new economy* and *Education in Canada: Raising the standard*, available in the Census module on Statistics Canada's Web site ([www.statcan.ca](http://www.statcan.ca)). Both documents are illustrated by numerous tables and charts.

In addition, in the *Community profiles* module, data for earnings, highest level of schooling and school attendance are available for Canada and the provinces and territories, as well as for 27 metropolitan areas and nearly 6,000 cities, towns, villages and Indian reserves.

For more information, contact Statistics Canada Advisory Services at 1 800 263-1136 or [infostats@statcan.ca](mailto:infostats@statcan.ca).

## ■ *Employment in computer and telecommunications industries*

The typical worker in computer and telecommunications (CT) industries is a highly educated man in his mid-30s, holding a full-time job and working longer hours than many other workers.

Although the proportion of women working in all other industries rose slowly but steadily over the 1990 to 2002 period, the proportion in CT industries decreased. By 2002, women accounted for one-third of the roughly 596,000 workers in CT industries, compared with 37% in 1990.

The study, titled *A profile of employment in computer and telecommunications industries*, uses the Labour Force Survey to analyze the composition and growth of employment in the CT group.

In 2002, just over 4 of every 10 men in CT industries (43%) were in professional occupations. Women made some substantial gains during the 1990s. By 2002, 25% of women in CT industries worked in professional occupations, just above the 24% who worked in clerical.

Average earnings in CT industries were higher than in other industries. Moreover, from 1997 to 2002, the gap in average earnings between workers in CT

industries and the rest of the economy continued to widen. In 2002, men working in the CT industries earned an average of over \$1,000 per week (before taxes and other deductions), compared with \$750 for men working in other industries.

Although women had lower earnings than men in all industries including CT, women's earnings were higher in the CT industries than in the rest of the economy. In fact, women's earnings in the CT industries were comparable to those of men in other industries.

CT workers tended to be younger than those in the rest of the economy. In 2002, the average age of a CT worker was 37.1, nearly a year younger than workers in other industries.

The number of people with a university degree working in CT industries increased three times as fast as the number in the rest of the economy during the 1990s.

University graduates accounted for nearly 38% of the CT industry workforce in 2002, up substantially from 23% in 1990. In comparison, university graduates accounted for only 20% of workers in all other industries in 2002. About 42% of men in CT industries had university degrees in 2002, compared with 30% of women.

Proportionately more women had part-time jobs in both CT industries and other industries. However, part-time work in CT industries was less prevalent than in the rest of the economy. The proportion of self-employment in CT industries was lower than in the rest of the economy, but the gap had been closing in recent years.

CT industries, which include telecommunications services and computer systems design services, are a subset of the information and communications technology sector, which contributed \$58.7 billion to Canada's economic output in 2002 as measured by gross domestic product (GDP). This represented 7% of business sector GDP. In 2002, CT employment accounted for just under 4% of total employment.

The new issue of the Connectedness series, *A profile of employment in computer and telecommunications industries*, no. 9 (56F0004MIE, free) is available on Statistics Canada's Web site ([www.statcan.ca](http://www.statcan.ca)). From the *Our products and services* page, under *Browse our Internet publications*, choose *Free*, then *Communications*.

For more information, contact Chantal Vaillancourt, Centre for Education Statistics, at (613) 951-2733.

## ■ Life after welfare

Family incomes rose for the majority of people who stopped receiving welfare benefits during the 1990s. However, for about 1 in every 3 individuals, family income declined significantly, according to a first-ever national study of the economic results of people leaving welfare rolls.

After leaving welfare, about 6 in 10 people saw their after-tax family income improve substantially. Such gains are to be expected and are often the reason for leaving welfare. In the following five years, people generally became more self-sufficient, as average family earnings improved by about 40%. Also, within this five-year time frame, less than one-third returned to welfare for a full year or more.

Marriage played an important role, both in dramatically increasing the likelihood that someone would leave welfare, and in improving their financial situation after leaving.

Many Canadians left welfare rolls during the 1990s when economic conditions improved and welfare reform was introduced. From 1994 to 1997, the proportion of the population collecting social assistance declined from 10.7% to 9.3%. The declines were highest in Alberta and, to a much lesser extent, in Ontario. This prompted the question: "What happened economically to welfare leavers?" This is the first-ever large-scale study on a national level to address the issue.

Two years after they left welfare, about 30% of individuals registered significantly lower family incomes than they had while on social assistance. Their average family income after welfare was only about one-third of their income while on welfare.

Jobs provided little income for these individuals in the short term. For example, one-third of people who were receiving welfare in 1992 and who left the system within two years had average annual family earnings of \$1,500 in 1994. However, these earnings did increase with time, reaching \$12,000 by 1998. This returned their family income to levels they had received while on welfare six years earlier.

Significant decline in family income, and lack of employment earnings during the following two years were observed for about one-third of welfare leavers in all provinces. (Analysis was not possible for Prince Edward Island because of a low sample size.) The



reasons for the marked decline in family income are not clear. The data used in this study do not shed light on why people stopped receiving welfare assistance.

Among the one-third of welfare leavers who saw the largest increase, average income was 2.4 times higher after leaving welfare than while receiving it. For these people, after-tax family income increased from \$13,900 while on welfare to \$33,600 two years later, and remained high during the following five years.

Employment earnings played a major role. For this group, average family employment earnings were \$35,700 two years after they left welfare, and remained at about this level over the next five years.

Among lone parents and unattached individuals, those who married or formed a common-law relationship were two to three times more likely to leave welfare than others. This was primarily the result of employment earnings brought to the family through the marriage.

Both single women and single men on welfare were more likely to leave welfare if they married, and both benefited substantially from the earnings of the new spouse. However, marriage had a much stronger impact for single women. They were about three times more likely to leave welfare if they married than if they did not.

Of all single women on welfare in any given year, about 20% of those who married left welfare within two years, compared with 6% of those who did not marry. Single men on welfare were about twice as likely to leave welfare if they married.

Among these single women who married and left welfare, the new spouse contributed more than three-quarters of family earnings. Among single men who married and left welfare, the new spouse contributed one-half of family earnings.

Welfare recipients in Alberta left the system at a much higher rate than recipients in other provinces during the study period, which covers most of the 1990s. More than 13% of Albertans who were on welfare for one year were receiving no assistance two years later. The proportion in Ontario, which had the second highest exit rate, was just above 9%. Among other provinces, the average rate was just under 8%. The higher rates in Alberta and Ontario could be due to stronger economic growth or to welfare reforms in these provinces during the 1990s.

In terms of family income after leaving welfare, Alberta generally stood in the middle of the pack compared with other provinces. Ontario had the highest rates, while Newfoundland and Labrador and New Brunswick had the lowest. Like all other provinces, roughly one-third of welfare leavers in Alberta experienced a significant economic decline following exit. However, all provinces had welfare leavers who did much better economically.

Differences in educational attainment and work experience among welfare leavers, and their effects on earnings, could not be taken into account with the available data. Furthermore, the results in this study are not necessarily applicable to all welfare recipients. The results apply to those who left the system, and such people tend to be more employable.

The research paper *Life after welfare: The economic well-being of welfare leavers in Canada during the 1990s* (11F0019MIE, no. 192, free) is available on Statistics Canada's Web site ([www.statcan.ca](http://www.statcan.ca)). From the *Our products and services* page, under *Browse our Internet publications*, choose *Free*, then *Social conditions*.

For more information, contact Marc Frenette (613) 951-4228) or Garnett Picot (613) 951-8214), Business and Labour Market Analysis Division.

## ■ **Canada-United States productivity growth gap**

Much of the recent debate in Canada over productivity has focused on the productivity growth gap between Canada and the United States. However, little effort has been directed to tracing and quantifying its sources. The research paper *A frontier approach to Canada-United States multifactor productivity performance*, attempts to fill the void.

The paper uses an experimental method that benchmarks the multifactor productivity growth of various industries against an estimated 'best practice' productivity frontier. This approach decomposes productivity growth into two components: technical efficiency and technical change.

The measure of technical efficiency shows whether production is getting closer (catching up) or further away from the best North American practice over time. This component quantifies the effectiveness of the technology diffusion. The measure of technical change captures the improvement in the best practice over time, a reflection of innovation.

It is important to know whether the Canada-United States productivity growth gap results from a slower rate of innovation or because technology improvements made by industry leaders diffuse only slowly to industry followers. If the gap occurs in technical change, best practice technology is not being brought to Canada. If it occurs on the technical efficiency side, best-practice technology is not being diffused once it arrives.

Over the 1981 to 2000 period, productivity growth in the aggregate business sector in Canada was behind that of the United States, primarily because of the deterioration in technical efficiency in Canada. Thus, the primary problem was the slower rate of diffusion of best-practice technology in Canada.

The productivity growth gap that emerged in the second half of the 1980s was mostly due to the deterioration of efficiency in Canada. By 1992, Canada's efficiency was only 90% of the best practice, established by the United States. Canada's business sector efficiency improved after 1993, and by the end of the 1990s, it had nearly caught up to the North American best practice.

Over the 1995 to 2000 period, the productivity growth gap vanished, largely as a result of the remarkable improvement in Canada's efficiency, a reflection of a faster and more effective diffusion of technology. But Canada still lagged behind in terms of technical change or innovation.

The manufacturing sector presents a similar story. The productivity growth gap in favour of the United States during the 1981 to 1997 period was a result of Canada's efficiency degradation compared with the United States. Both countries showed an almost identical pace of technical change over this period (7.5% for Canada and 7.6% for the United States).

Over the last two decades, an increasing number of manufacturing industries have moved away from the North American best practice in both Canada and United States, a reflection of an efficiency deterioration. This suggests that the technology diffusion is endemic in the North American manufacturing sector. In 1982, all of the 38 industries in this sector considered in this study had an efficiency score higher than 70%, compared with 17 industries in 1988 and only 6 industries in 1997.

A large proportion of Canadian industries improved their efficiency during the mid-1990s. In 1997, for example, almost one-half of the least technically efficient North American industries were Canadian. This was a sharp decline compared with 1988, when Canada had nearly two-thirds of the least technically efficient industries, but still high in comparison to the early 1980s.

The research paper *A frontier approach to Canada-United States multifactor productivity performance* (11F0027MIE2003010, free) is now available on Statistics Canada's Web site ([www.statcan.ca](http://www.statcan.ca)). From the *Our products and services* page, under *Browse our Internet publications*, choose *Free*, then *National accounts*. Information on related papers on productivity is also available ([www.statcan.ca/english/studies/eaupdate/prod.htm](http://www.statcan.ca/english/studies/eaupdate/prod.htm)).

For more information, contact Tarek M. Harchaoui, Micro-economic Analysis Division, at (613) 951-9856; fax: (613) 951-5403; [harctar@statcan.ca](mailto:harctar@statcan.ca).

## ■ *Determinants of training*

It is sometimes argued that workers who receive little classroom training may overcome any shortfall by taking more on-the-job training. A new report using recent data on training does not support this view.

For instance, while employees with a high school diploma were much less likely to receive classroom training than university graduates, their chances of taking on-the-job training were very similar to those of university graduates.

The report, based on the 1999 Workplace and Employee Survey, examines the extent to which workers combine two types of employer-sponsored training: classroom (formal) and on-the-job. It departs from previous Canadian studies, which have restricted their attention to workers' participation in classroom training only.

When both types of training are considered, the relative training advantage of workers most likely to receive classroom training diminishes but does not vanish.

Small workplaces (those with fewer than 20 employees) train a smaller proportion of their workforce than large workplaces. In 1999, 26% of employees received classroom training and 24%



received on-the-job training in small establishments. The corresponding numbers for large establishments (100 or more employees) were 48% and 32%. However, among firms that offered training, small firms trained a slightly higher proportion of their employees than larger firms.

Workplaces with a provision for training in their collective bargaining agreement train a greater proportion of their workforce than other workplaces. In contrast, firms with no training provision do not train more employees than firms with no collective bargaining agreement.

*New evidence on the determinants of training in Canadian business locations* (71-584-MIE, no. 5, free) is available on Statistics Canada's Web site ([www.statcan.ca](http://www.statcan.ca)). From the *Our products and services* page, under *Browse our Internet publications*, choose *Free*, then *Labour*. A paper version (71-584-MPE, no. 5, \$15) is also available.

For more information, contact Nathalie Caron, Labour Statistics Division, at (613) 951-4051.

## ■ *Income of individuals, families and households*

At \$55,000, the median income before taxes of Canadian families remained essentially unchanged from 1990 to 2000 after adjusting for inflation, according to the 2001 Census.

Incomes of families in the bottom half of the income distribution showed little or no improvement through the 1990s. However, the 10% of families with the highest incomes experienced substantial gains.

In 2000, the 10% of families with the highest incomes accounted for 28% of total family income; in 1990, they accounted for 26% of all family income before taxes. The 10% of families with the lowest incomes made up less than 2% of all family income, the same as in 1990.

Among working-age families, the proportion of total income among working-age families that came from government transfer payments declined from 6.4% in 1990 to 5.6% in 2000.

Based on before-tax income, an estimated 19% of children were living in low-income families in 2000. This proportion was virtually unchanged from a decade earlier.

Unlike 1981 and 1991, the low-income rate was lower among seniors (people aged 65 and over) than among children in 2001. Among seniors who were not institutionalized, the low-income rate based on income before tax declined from 20% in 1990 to 17% in 2000. This continued a long-term downward trend that has seen low income rates among seniors cut nearly in half over the past two decades.

Lone-parent families with children aged 17 and under made particularly big gains between 1990 and 2000, the result of greater labour market activity and increased government transfers. In 2000, the median income of these lone-parent families was \$26,000, up 19% from \$21,800 in 1990.

Detailed analysis of these new census data is presented in the online report *Income of Canadian families*, available on Statistics Canada's Web site ([www.statcan.ca](http://www.statcan.ca)). The document includes several tables and charts.

In addition, in the *Community profiles* module, data on income are available for Canada and the provinces and territories, as well as for 27 metropolitan areas and nearly 6,000 cities, towns, villages and Indian reserves.

For more information, contact Statistics Canada Advisory Services at 1 800 263-1136 or [infostats@statcan.ca](mailto:infostats@statcan.ca).

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### Perspectives

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# In the works

*Some of the topics in upcoming issues*

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## ■ Sources of workplace stress

What are the most commonly cited sources of workplace stress? This article examines the associated demographic and work characteristics.

## ■ Canada-U.S. productivity

The improvement of the labour market during the late 1990s was a major factor in boosting average real incomes for Canadians. The 1990s presented the longest period of continuous growth in multifactor productivity during the last 20 years.

## ■ Property taxes

Property tax paid as a fraction of family income varies considerably across the provinces. Property taxes are regressive whereas income taxes are progressive. Both affect family income inequality but in opposite ways.

## ■ Non-standard work

Non-standard work was on the rise in the early 1990s. This article examines recent trends and asks if non-standard work is a good measure of labour market insecurity.

## ■ Grievance system

Do unionized workers have an advantage over their non-unionized counterparts? This article examines access to, use of, and perceived success of the system.

PERSPECTIVES ON LABOUR AND INCOME

The quarterly for labour market and income information



# Key labour and income facts

## *Selected charts and analysis*

This section presents charts and analysis featuring one or more of the following sources. For general inquiries, contact Joanne Bourdeau at (613) 951-4722; [bourjoa@statcan.ca](mailto:bourjoa@statcan.ca).

### **Administrative data**

*Small area and administrative data*

Frequency: Annual

Contact: Customer Services

(613) 951-9720

### **Business surveys**

*Annual Survey of Manufactures*

Frequency: Annual

Contact: Dissemination agent

(613) 951-9497

*Annual Surveys—Service Industries*

Frequency: Annual

Contact: Lucie Lussier

(613) 951-0410

*Business Conditions Survey of  
Manufacturing Industries*

Frequency: Quarterly

Contact: Claude Robillard

(613) 951-3507

### **Census**

*Census labour force characteristics*

Frequency: Quinquennial

Contact: Michel Côté

(613) 951-6896

*Census income statistics*

Frequency: Quinquennial

Contact: John Gartley

(613) 951-6906

### **Employment and income surveys**

*Labour Force Survey*

Frequency: Monthly

Contact: Marc Lévesque

(613) 951-4090

*Survey of Employment, Payrolls  
and Hours*

Frequency: Monthly

Contact: Sylvie Picard

(613) 951-4090

*Help-wanted Index*

Frequency: Monthly

Contact: Sylvie Picard

(613) 951-4090

*Employment Insurance  
Statistics Program*

Frequency: Monthly

Contact: Sylvie Picard

(613) 951-4090

*Major wage settlements*

Bureau of Labour Information

(Human Resources

Development Canada)

Frequency: Quarterly

Contact: (819) 997-3117

1 800 567-6866

*Labour income*

Frequency: Quarterly

Contact: Anna MacDonald

(613) 951-3784

*Survey of Labour and Income Dynamics*

Frequency: Annual

Contact: Client Services

(613) 951-7355 or

1 888 297-7355

*Survey of Financial Security*

Frequency: Occasional

Contact: Client Services

(613) 951-7355 or

1 888 297-7355

*Survey of Household Spending*

Frequency: Annual

Contact: Client Services

(613) 951-7355 or

1 888 297-7355

### **General social survey**

*Education, work and retirement*

Frequency: Occasional

Contact: Client Services

(613) 951-5979

*Social and community support*

Frequency: Occasional

Contact: Client Services

(613) 951-5979

*Time use*

Frequency: Occasional

Contact: Client Services

(613) 951-5979

### **Pension surveys**

*Pension Plans in Canada Survey*

Frequency: Annual

Contact: Patricia Schembari

(613) 951-9502

*Quarterly Survey of Trusteed  
Pension Funds*

Frequency: Quarterly

Contact: Bob Anderson

(613) 951-4034

### **Special surveys**

*Survey of Work Arrangements*

Frequency: Occasional

Contact: Ernest B. Akyeampong

(613) 951-4624

*Adult Education and Training Survey*

Frequency: Occasional

Contact: Client Services

(613) 951-7355 or

1 888 297-7355

*Graduate Surveys*

(Postsecondary)

Frequency: Occasional

Contact: Client Services

(613) 951-7608

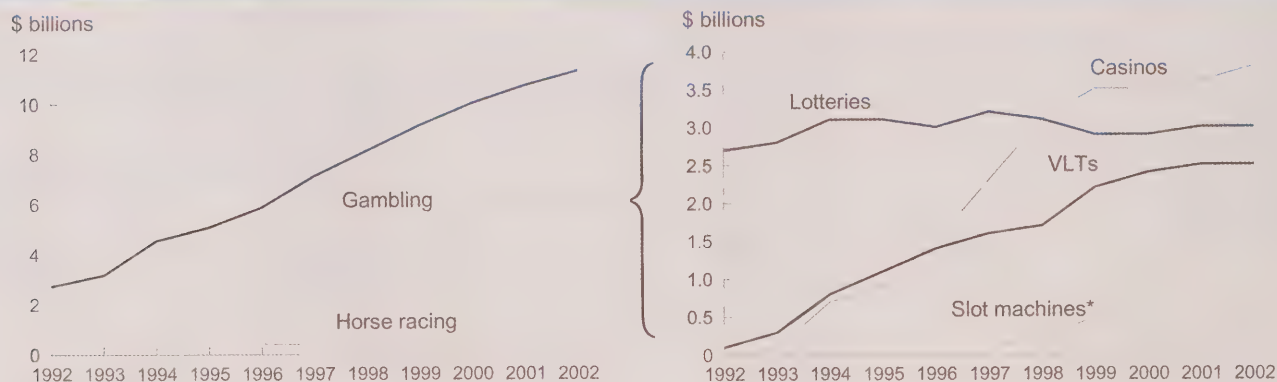
# Gambling

Net revenue from government-run lotteries, video lottery terminals (VLTs), and casinos rose from \$2.7 billion in 1992 to \$11.3 billion in 2002. Of this \$11.3 billion, \$6.0 billion was profit.

Net revenue from pari-mutuel betting (horse racing) dropped from \$530 million to \$440 million over the same period (1992 to 2002).

In 2002, lotteries accounted for 27% of all net non-charity gambling revenue, casinos 34%, VLTs 23%, and slot machines not in casinos 17%.

Net revenue from government-run gambling has increased steadily.



Source: National Accounts

\* Refers to ones found outside government-run casinos (see note page 1).

**Note:** In the late 1990s, government slot machines were introduced at racetracks in Alberta and Ontario, and at the 16 charity casinos in Alberta. As of February 2003, there were 624 slot machines at 2 of 7 racetracks in Alberta, 5,621 machines at the 16 charity casinos, and over 8,650 machines at 15 racetracks in Ontario. On March 17, 2002, the British Columbia Lottery Corporation introduced Superstar Bingo, an electronic, on-line bingo game, which links halls (currently 85) and players throughout the province. For further information see [www.gaming.gov.ab.ca](http://www.gaming.gov.ab.ca), [www.olgc.ca](http://www.olgc.ca), and [www.bclc.com](http://www.bclc.com).



Average gambling expenditure per person 18 and over in 2001 ranged from \$105 in the three territories to \$604 in Alberta, with a national average of \$447.

Survey of Household Spending (SHS) and National Accounts rankings of provincial expenditures differ, in part because the SHS includes both charity and non-charity gambling activity.

## Gambling revenues and profits

	Gambling revenue*		Gambling profit**		Share of total revenue***		Expenditure per capita (18+) <sup>†</sup>	
	1992	2001	1992	2001	1992	2001	1992	2001
	\$ millions (current)				%		\$	
<b>Canada</b>	<b>2,734</b>	<b>10,727</b>	<b>1,680</b>	<b>6,047</b>	<b>1.9</b>	<b>5.1</b>	<b>130</b>	<b>447</b>
Newfoundland and Labrador	80	184	42	105	2.3	4.9	190	438
Prince Edward Island	20	30	7	16	2.7	3.1	205	283
Nova Scotia	125	348	72	163	2.8	6.0	180	473
New Brunswick	117	184	49	95	2.7	3.5	210	311
Quebec	693	2,718	472	1,483	1.8	5.0	130	466
Ontario	853	4,030	529	1,938	1.9	6.0	105	441
Manitoba	153	463	105	288	2.5	5.5	185	538
Saskatchewan	62	352	39	276	1.1	4.8	85	467
Alberta	225	1,387	125	1,094	1.6	5.4	120	604
British Columbia	403	1,024	239	584	2.2	3.6	155	319
Yukon, Northwest Territories and Nunavut	5	7	1	5	0.3	0.3	80	105

Sources: National Accounts, Public Institutions (Financial management statistics) and post-censal population estimates.

\* Total revenue from wagers on non-charity lotteries, casinos and VLTs, minus prizes and winnings.

\*\* Net income of provincial governments from total gambling revenue, less operating and other expenses (see Data sources and definitions).

\*\*\* The 2001 share of total revenue calculation is based on 2001 gambling revenue and 2000 total provincial revenue. The 2001 provincial revenue will be available autumn 2003.

<sup>†</sup> Net wagers; persons 18 and over were selected as this is the legal age of gambling in most provinces.

Compared with workers in non-gambling industries, those in gambling were more likely to be women (55% versus 46%), under 35 (52% versus 38%), paid by the hour (83% versus 63%), and paid less (\$15 hourly versus \$18).

Employment in the gambling industry rose from 12,000 in 1992 to 42,000 in 2002.

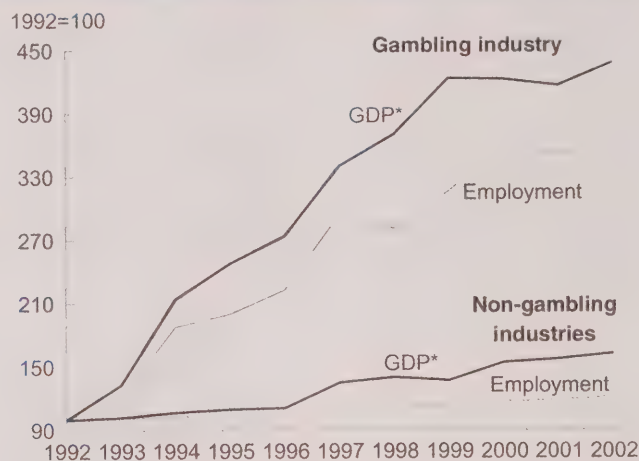
### Characteristics of workers

	Gambling		Non-gambling	
	1992	2002	1992	2002
	'000			
<b>Total employed</b>	<b>12</b>	<b>42</b>	<b>12,830</b>	<b>15,370</b>
<b>Sex</b>	%			
Men	35	45	55	54
Women	65	55	45	46
<b>Age</b>				
15 to 34	57	52	45	38
35 and over	43	48	55	62
<b>Education</b>				
High school or less*	66	54	57	46
Postsecondary certificate or diploma	21	37	27	34
University degree	13	9	16	20
<b>Work status</b>				
Full-time	59	82	82	81
Part-time	41	18	18	19
<b>Province</b>				
Atlantic provinces	8	4	7	7
Quebec	9	18	24	23
Ontario	28	49	39	39
Prairie provinces	30	19	17	18
British Columbia	25	10	13	13
<b>Class of worker</b>				
Employee	98	99	85	85
Self-employed	F	F	15	15

Source: Labour Force Survey

\* May include some uncompleted postsecondary.

### Gambling outpaced other industries.



Sources: Labour Force Survey; National Accounts

\* The price, at basic prices, of the goods and services produced. The GDP figures for the gambling industry refer strictly to wagering activities, such as lottery ticket sales, VLT receipt sales and bets at casinos. Other economic spinoffs, such as hotel and restaurant business, security services, or building and equipment maintenance, are not included.

### Characteristics of jobs

	Gambling		Non-gambling	
	1997	2002	1997	2002
	'000			
<b>Employees*</b>	<b>34</b>	<b>41</b>	<b>11,419</b>	<b>13,025</b>
	%			
Unionized**	30	28	34	32
Non-unionized	70	72	66	68
Permanent job	91	93	89	87
Temporary job	9	7	11	13
Usually receive tips	27	24	7	7
No. tips	73	76	93	93
Paid by the hour	80	83	61	63
Not paid hourly	20	17	39	37
<b>Average hourly earnings†</b>	\$			
Men: full-time	13.60	17.50	17.80	20.30
Women: full-time	13.10	14.60	14.80	16.90

Source: Labour Force Survey

\* More detailed questions on employees were introduced with the 1997 revision of the Labour Force Survey.

\*\* Includes persons who are not union members, but whose jobs are covered by collective agreements.

† Includes tips and commissions.



One in six women and men living alone reported spending money on casinos, slot machines or VLTs; however, the men spent more than three times as much as the women—\$914 compared with \$261.

The expenditure figures are not adjusted for any winnings. As well, households consistently under-report the amount of money they spend on gambling. Comparisons with Lottery Corporation figures, for example, have shown that households under-report their government lottery purchases by more than 50%.

## Household expenditures on gambling activities

	At least one gambling activity		Government lotteries		Other lotteries/raffles, etc.		Casinos, slot machines and VLTs		Bingos	
	\$	%	\$	%	\$	%	\$	%	\$	%
<b>All households</b>										
1998	462	77	251	68	81	34	432	20	700	10
1999	499	76	246	67	76	32	631	20	655	10
2000	492	74	245	64	84	31	546	21	743	9
2001	513	72	257	62	98	30	554	20	815	9
<b>One-person households*</b>	454	61	218	51	129	21	568	16	675	7
Men	576	61	269	53	189	21	914	15	873	3
18 to 44	345	60	184	50	69	21	435	19	625	3
45 to 64	859	65	355	59	136	23	2,186	12	1,305	4
65 and over	543	57	277	48	631	16	402	14	558	3
Women	340	62	166	50	71	20	261	17	620	11
18 to 44	153	59	99	46	32	22	209	15	97	6
45 to 64	366	68	173	59	62	20	254	22	781	10
65 and over	390	59	185	47	92	19	286	14	636	13
<b>All households</b>										
Newfoundland and Labrador	485	69	249	60	63	33	728	9	608	16
Prince Edward Island	536	63	231	45	109	39	287	10	1,426	11
Nova Scotia	478	76	223	63	59	41	342	22	990	12
New Brunswick	417	69	226	61	48	35	220	10	911	12
Quebec	427	77	267	72	47	19	446	16	624	9
Ontario	550	68	266	57	132	31	457	24	954	8
Manitoba	606	70	258	52	85	41	627	28	732	10
Saskatchewan	539	77	211	57	80	52	657	26	692	12
Alberta	611	73	228	58	111	41	884	21	845	9
British Columbia	512	70	257	62	81	29	898	15	744	5
<b>Income after tax</b>										
Less than \$20,000	357	59	183	50	51	15	489	11	579	11
\$20,000 to \$39,999	459	71	254	62	105	26	415	18	728	9
\$40,000 to \$59,999	581	76	280	66	102	34	631	21	985	9
\$60,000 to \$79,999	553	78	284	69	88	38	476	27	1,031	7
\$80,000 and over	642	77	277	64	113	46	764	28	1,050	5

Source: Survey of Household Spending

Note: Expenditures are per spending household. Unless otherwise indicated, figures are for 2001.

\* Using one-person households allows examination of individual characteristics. Persons 18 and over were selected as this is the legal age for gambling in most provinces.

*For further information on any of these data, contact Katherine Marshall, Labour and Household Surveys Analysis Division. She can be reached at (613) 951-6890 or [katherine.marshall@statcan.ca](mailto:katherine.marshall@statcan.ca).*

Gambling participation and expenditure increased with household income. For example, 59% of households with incomes of less than \$20,000 gambled

in 2001 and spent an average of \$357, while equivalent figures for those with incomes of \$80,000 or more were 77% and \$642.

### Household expenditure on all gambling activities by income groups, 2001

	Average expenditure		Percentage reporting	Gaming as % of total income	
	All households	Reporting households		All households	Reporting households
	\$	\$	%	%	%
<b>Income after tax</b>	<b>368</b>	<b>513</b>	<b>72</b>	<b>0.6</b>	<b>0.8</b>
Less than \$20,000	211	357	59	1.6	2.6
\$20,000 to \$39,999	326	459	71	1.1	1.5
\$40,000 to \$59,999	444	581	76	0.9	1.2
\$60,000 to \$79,999	431	553	78	0.6	0.8
\$80,000 and over	497	642	77	0.4	0.6

Source: Survey of Household Spending

### Data sources and definitions

**Labour Force Survey:** a monthly household survey that collects information on labour market activity, including detailed occupational and industrial classifications, from all persons 15 years and over.

**National Accounts:** The quarterly Income and Expenditure Accounts (IEA) is one of several programs constituting the System of National Accounts. The IEA produces detailed annual and quarterly income and expenditure accounts for all sectors of the Canadian economy, namely households, businesses, governments and non-residents.

**Survey of Household Spending:** an annual survey that began in 1997 and replaced the Family Expenditure Survey and the Household Facilities and Equipment Survey. It collects data on expenditures, income, household facilities and equipment, and other characteristics of families and individuals living in private households.

**Gambling industries:** This industry group covers establishments primarily engaged in operating gambling facilities, such as casinos, bingo halls and video gaming terminals; or providing gambling services, such as lotteries and off-track betting. It excludes horse race tracks and hotels, bars and restaurants that have casinos or gambling machines on the premises.

**Gambling profit:** net income from provincial and territorial government-run lotteries, casinos and VLTs, after prizes and winnings, operating expenses (including wages and salaries), payments to the federal government and other overhead costs are deducted.

**Gambling revenue:** all money wagered on provincial and territorial government-run lotteries, casinos and VLTs, less prizes and winnings. Gambling revenue generated by and for charities and on Indian reserves is excluded.

**Government casino:** a government-regulated commercial casino. Permits, licences and regulations for casinos, both charity and government, vary by province. Government casinos, now permitted in several provinces, also vary by the degree of public and private involvement in their operations and management. Some government casinos are run entirely as crown corporations, while others contract some operations—for example, maintenance, management or services—to the private sector.

**Video lottery terminal (VLT):** coin-operated, free-standing, electronic game of chance. Winnings are paid out through receipts that are turned in for cash, as opposed to cash payments from slot machines. Such terminals are regulated by provincial lottery corporations.

# Work absences

There are many kinds of absence. Some, like annual vacations, are generally considered to be economically healthy for both the organization and the employee. Also, they are usually scheduled so that their effect upon the organization can be more easily absorbed; the same can be said of statutory holidays. Other absences, such as those caused by illness and family-related demands, are generally unavoidable and often unscheduled. Some, like those due to inclement weather, are uncontrollable.

'Absenteeism'—used generally to refer to absences that are avoidable, habitual and often unscheduled—is a source of irritation to employers and co-workers. Unscheduled absences are disruptive to proper work scheduling and output, and costly to an organization and the economy as a whole. Invariably, they are work absences for personal reasons (namely, illness or disability, and personal or family responsibilities).

Although absenteeism is widely acknowledged to be a problem, it is not easy to quantify. The dividing line between avoidable and unavoidable absences is difficult to draw, and absenteeism generally masquerades as legitimate absence. A data source such as the Labour Force Survey (LFS) can provide measures of time lost due to illness or disability and personal or family responsibilities, but within these categories, it cannot distinguish between avoidable and unavoidable, scheduled and unscheduled absences. LFS data on all absences for these personal reasons can, however, be analyzed to identify patterns or trends that indicate the effect of absenteeism (see *Data source and definitions*).

## Table 1: Demographic differences

In 2002, excluding women on maternity leave, an estimated 7.6% (771,200) of full-time employees missed some work each week for personal reasons: 5.5% for own illness or disability, and 2.1% for personal or family responsibilities. As a result of these absences, full-time employees lost about 3.6% of their work time each week.

On average, each full-time employee lost 9.0 days over the year for personal reasons (about 7.3 for own illness or disability, and 1.7 for personal or family demands). In total, full-time employees missed an estimated 92 million workdays for personal reasons in 2002.

On average, men working full time lost fewer days (7.9 or 6.4 for illness plus 1.6 for personal/family demands) than female full-time employees (10.4 or 8.6 plus 1.9).

The presence of preschool-aged children tends to exert a strong influence on work absences for personal or family responsibilities, especially for women. In such families, women employed full time lost an average of 5.1 days in 2002; men, 3.9 days.

Workdays missed due to illness or disability tended to rise with age, from an average of 5.0 days for youth (15 to 19 years) to 10.7 for full-time employees aged 55 to 64.

## Table 2: Industry and sector

Work absence rates differ by sector (public or private) and industry. Contributing factors include the nature and demands of the job, the male/female composition of the workforce, and the union density—the last being a strong determinant of the presence or lack of paid sick/family leave entitlements.

Full-time employees in the public sector lost more work time in 2002 (about 11.7 days on average) for personal reasons than their private-sector counterparts (8.2 days).

At the major industry level, the most workdays missed were by employees in health care and social assistance (13.4 days), and in public administration (11.0).

The lowest averages were recorded by full-time workers in the professional, scientific and technical industry (6.0 days), and in trade (7.2).



### Table 3: Occupation

Contributing factors by occupational absence rates are similar to those listed for industry. Again, as by industry, differences arose mainly from time lost due to illness or disability.

Full-time employees in health occupations (14.5), in occupations unique to production (11.0), and in trades, transport and equipment operator positions (10.1), recorded the most days lost in 2002.

Workers in managerial jobs (5.7), in natural and applied sciences (6.1), and in positions in culture and recreation (7.5) recorded the fewest days lost.

### Table 4: Union coverage, job status, workplace size and job tenure

Full-time workers who belonged to unions or were covered by collective agreements missed almost twice as many workdays on average in 2002 for personal reasons as their non-unionized counterparts (12.7 versus 7.1).

Workers who considered their jobs to be permanent (and more likely to be unionized) lost on average more workdays (9.1) than those who said their jobs were not permanent (7.8).

Days lost tended to rise with firm size, increasing from a low of 7.6 in firms with fewer than 20 employees (firms more likely to have low union rates) to around 10.0 in firms with 100 or more (firms likely to have high union rates).

Days lost tended to rise with job tenure, with almost all the differences arising from sickness and disability. They rose from an average of 6.8 days among persons with tenure of up to one year to 10.8 among those with nine or more years (the latter group likely being older).

### Table 5: Province and CMA

Work absence levels differed by geographic area, with most of the variation again arising from illness or disability.

Full-time employees in Nova Scotia and Saskatchewan lost on average most work time in 2002 (10.3 and 10.2 days). Those in Newfoundland and Labrador, Ontario, and Alberta (8.3) lost the least time.

Among the census metropolitan areas, workers in Thunder Bay, Regina, Gatineau, Trois-Rivières, Victoria, Windsor and Winnipeg lost the most workdays (an average of more than 10 days per full-time worker). Those in Hamilton (7.3), London (7.4), Calgary (7.7), and Kitchener-Waterloo (7.8) lost the least time.

**Table 1: Absence rates for full-time paid workers by sex, age, education and presence of children, 2002, excluding maternity leave**

	Incidence*			Inactivity**			Days lost per worker in year†		
	Total	Own illness or disability	Personal or family responsibilities	Total	Own illness or disability	Personal or family responsibilities	Total	Own illness or disability	Personal or family responsibilities
Age	%			%			days		
<b>Both sexes</b>	<b>7.6</b>	<b>5.5</b>	<b>2.1</b>	<b>3.6</b>	<b>2.9</b>	<b>0.7</b>	<b>9.0</b>	<b>7.3</b>	<b>1.7</b>
15 to 19	6.1	4.7	1.4	2.5	2.0	0.5	6.2	5.0	1.2
20 to 24	7.1	5.4	1.7	2.7	2.2	0.5	6.8	5.5	1.3
25 to 34	7.8	5.3	2.5	3.3	2.4	0.9	8.3	6.1	2.2
35 to 44	7.7	5.4	2.3	3.6	2.9	0.7	9.0	7.3	1.7
45 to 54	7.4	5.6	1.9	3.8	3.3	0.6	9.6	8.1	1.5
55 to 64	7.9	6.3	1.5	4.8	4.3	0.5	12.0	10.7	1.3
65 and over	6.7	4.0	F	3.7	2.6	F	9.3	6.6	F
<b>Men</b>	<b>6.6</b>	<b>4.7</b>	<b>1.9</b>	<b>3.2</b>	<b>2.6</b>	<b>0.6</b>	<b>7.9</b>	<b>6.4</b>	<b>1.6</b>
15 to 19	5.9	4.4	1.5	2.4	1.9	0.5	6.1	4.9	1.2
20 to 24	6.7	5.1	1.7	2.7	2.2	0.5	6.8	5.5	1.3
25 to 34	6.8	4.5	2.3	3.0	2.1	0.8	7.4	5.3	2.1
35 to 44	6.5	4.5	2.0	3.1	2.5	0.6	7.7	6.2	1.5
45 to 54	6.3	4.6	1.7	3.3	2.7	0.5	8.2	6.8	1.3
55 to 64	6.9	5.6	1.3	4.3	3.9	0.4	10.9	9.8	1.1
65 and over	6.9	4.1	F	3.8	2.7	F	9.5	6.7	F
<b>Women</b>	<b>8.9</b>	<b>6.5</b>	<b>2.4</b>	<b>4.2</b>	<b>3.4</b>	<b>0.8</b>	<b>10.4</b>	<b>8.6</b>	<b>1.9</b>
15 to 19	6.5	5.1	F	2.6	2.1	F	6.5	5.4	F
20 to 24	7.7	5.8	1.8	2.7	2.2	0.5	6.8	5.5	1.3
25 to 34	9.2	6.3	2.9	3.8	2.9	0.9	9.5	7.1	2.3
35 to 44	9.3	6.6	2.7	4.3	3.5	0.8	10.8	8.9	2.0
45 to 54	8.9	6.8	2.1	4.6	3.9	0.6	11.4	9.8	1.6
55 to 64	9.3	7.5	1.9	5.6	4.9	0.7	14.0	12.2	1.8
65 and over	F	F	F	F	F	F	F	F	F
<b>Educational attainment</b>									
<b>Both sexes</b>	<b>7.6</b>	<b>5.5</b>	<b>2.1</b>	<b>3.6</b>	<b>2.9</b>	<b>0.7</b>	<b>9.0</b>	<b>7.3</b>	<b>1.7</b>
Less than Grade 9	7.7	6.0	1.7	4.6	4.0	0.6	11.6	10.0	1.6
Some secondary	8.3	6.3	2.0	4.4	3.8	0.6	10.9	9.4	1.5
High school graduate	7.6	5.6	2.0	3.7	3.1	0.7	9.4	7.7	1.6
Some postsecondary	7.8	5.5	2.2	3.5	2.7	0.7	8.6	6.8	1.8
Postsecondary certificate or diploma	7.9	5.7	2.2	3.7	3.1	0.7	9.3	7.7	1.7
University degree	6.6	4.5	2.1	2.7	2.0	0.7	6.7	4.9	1.8
<b>Presence of children</b>									
<b>Both sexes</b>	<b>7.6</b>	<b>5.5</b>	<b>2.1</b>	<b>3.6</b>	<b>2.9</b>	<b>0.7</b>	<b>9.0</b>	<b>7.3</b>	<b>1.7</b>
With children	8.1	5.4	2.7	3.8	2.9	0.9	9.5	7.3	2.3
Preschool-aged (under 5 years)	9.5	5.5	4.1	4.3	2.6	1.7	10.8	6.6	4.3
5 to 12 years	7.8	5.3	2.5	3.5	2.8	0.7	8.7	7.0	1.7
13 years and over	7.3	5.4	1.8	3.8	3.2	0.6	9.4	8.0	1.4
Without children	7.2	5.5	1.6	3.4	2.9	0.5	8.5	7.3	1.2

Source: Labour Force Survey

\* Absent workers divided by total.

\*\* Hours absent divided by hours usually worked.

† Inactivity rate multiplied by working days in year (250).

**Table 2: Absence rates for full-time paid workers by industry and sector, 2002, excluding maternity leave**

	Incidence*			Inactivity**			Days lost per worker in year†		
	Total	Own illness or disability	Personal or family responsibilities	Total	Own illness or disability	Personal or family responsibilities	Total	Own illness or disability	Personal or family responsibilities
	%			%			days		
<b>All industries</b>	<b>7.6</b>	<b>5.5</b>	<b>2.1</b>	<b>3.6</b>	<b>2.9</b>	<b>0.7</b>	<b>9.0</b>	<b>7.3</b>	<b>1.7</b>
Public employees	9.3	7.0	2.3	4.7	3.9	0.8	11.7	9.6	2.1
Private employees	7.1	5.0	2.0	3.3	2.7	0.6	8.2	6.6	1.6
Goods-producing	7.4	5.3	2.1	3.6	3.0	0.6	9.1	7.5	1.6
Primary	5.9	4.1	1.8	3.2	2.5	0.8	8.1	6.2	1.9
Agriculture	6.1	4.1	2.0	3.0	2.3	0.8	7.6	5.7	1.9
Other	5.8	4.1	1.7	3.3	2.6	0.8	8.3	6.4	1.9
Utilities	6.7	4.7	2.0	3.2	2.6	0.7	8.0	6.4	1.7
Construction	6.9	4.9	2.0	3.7	3.0	0.7	9.1	7.4	1.7
Manufacturing	7.8	5.6	2.2	3.7	3.1	0.6	9.3	7.7	1.5
Durable	7.8	5.6	2.2	3.7	3.1	0.6	9.2	7.7	1.5
Non-durable	7.7	5.6	2.1	3.7	3.1	0.6	9.4	7.8	1.6
Service-producing	7.7	5.6	2.1	3.6	2.9	0.7	8.9	7.2	1.7
Trade	6.5	4.6	1.9	2.9	2.3	0.6	7.2	5.8	1.4
Wholesale	6.2	4.0	2.3	2.4	1.8	0.6	6.0	4.6	1.4
Retail	6.6	4.9	1.8	3.1	2.5	0.6	7.7	6.4	1.4
Transportation and warehousing	7.1	5.4	1.8	4.1	3.5	0.7	10.3	8.6	1.6
Finance, insurance, real estate and leasing	7.5	5.4	2.2	3.1	2.5	0.6	7.8	6.3	1.5
Finance and insurance	7.7	5.6	2.1	3.2	2.6	0.5	7.9	6.6	1.3
Real estate and leasing	6.7	4.4	2.3	2.9	2.1	0.8	7.3	5.2	2.1
Professional, scientific and technical	6.6	4.3	2.3	2.4	1.8	0.6	6.0	4.4	1.6
Management, administrative and support	8.1	5.7	2.4	3.5	2.7	0.9	8.8	6.7	2.1
Educational services	8.5	6.1	2.3	3.9	3.0	0.9	9.8	7.6	2.2
Health care and social assistance	9.8	7.7	2.1	5.3	4.5	0.8	13.4	11.3	2.0
Information, culture and recreation	7.2	5.3	1.9	3.2	2.6	0.6	8.0	6.5	1.5
Accommodation and food services	6.1	4.4	1.7	3.0	2.3	0.7	7.6	5.7	1.9
Other services	6.7	4.6	2.1	2.6	2.1	0.5	6.5	5.2	1.3
Public administration	9.3	6.8	2.5	4.4	3.6	0.8	11.0	8.9	2.0
Federal	11.0	7.7	3.3	5.0	3.9	1.1	12.5	9.7	2.8
Provincial	8.5	6.1	2.4	3.9	3.1	0.8	9.7	7.8	1.9
Local, other	7.9	6.3	1.6	4.1	3.6	0.5	10.2	9.0	1.2

Source: Labour Force Survey

\* Absent workers divided by total.

\*\* Hours absent divided by hours usually worked.

† Inactivity rate multiplied by working days in year (250).



**Table 3: Absence rates for full-time paid workers by occupation, 2002, excluding maternity leave**

	Incidence*			Inactivity**			Days lost per worker in year†		
	Total	Own illness or disability	Personal or family responsibilities	Total	Own illness or disability	Personal or family responsibilities	Total	Own illness or disability	Personal or family responsibilities
		%			%		days		
<b>All occupations</b>	<b>7.6</b>	<b>5.5</b>	<b>2.1</b>	<b>3.6</b>	<b>2.9</b>	<b>0.7</b>	<b>9.0</b>	<b>7.3</b>	<b>1.7</b>
Management	5.6	3.7	1.8	2.3	1.7	0.6	5.7	4.1	1.6
Business, finance and administrative	8.3	5.8	2.5	3.4	2.7	0.6	8.4	6.8	1.6
Professional	6.7	4.7	2.0	2.6	2.0	0.6	6.6	5.1	1.5
Financial and administrative	7.8	5.2	2.7	3.2	2.4	0.7	7.9	6.1	1.8
Clerical	8.9	6.4	2.5	3.7	3.0	0.6	9.1	7.6	1.6
Natural and applied sciences	6.6	4.3	2.2	2.4	1.8	0.7	6.1	4.4	1.7
Health	9.9	8.0	1.9	5.8	5.0	0.8	14.5	12.4	2.1
Professional	5.5	4.3	F	2.3	1.8	F	5.8	4.4	F
Nursing	10.9	8.8	2.1	6.7	5.7	1.0	16.8	14.2	2.6
Technical	8.9	7.0	2.0	5.0	4.3	0.7	12.4	10.7	1.7
Support staff	11.5	9.5	2.0	7.1	6.3	0.8	17.6	15.7	2.0
Social and public service	8.3	6.0	2.3	3.8	2.9	0.9	9.5	7.3	2.2
Legal, social and religious workers	8.4	6.0	2.4	3.8	3.1	0.8	9.6	7.6	2.0
Teachers and professors	8.2	5.9	2.2	3.8	2.8	1.0	9.4	7.0	2.4
Secondary and elementary	9.2	6.8	2.4	4.1	3.1	1.1	10.3	7.7	2.7
Other	5.6	3.8	1.9	2.8	2.1	0.7	7.0	5.3	1.7
Culture and recreation	7.3	5.3	2.0	3.0	2.3	0.6	7.5	5.9	1.6
Sales and service	6.9	5.1	1.8	3.5	2.8	0.7	8.6	7.0	1.6
Wholesale	5.9	3.8	2.1	2.3	1.7	0.6	5.9	4.3	1.5
Retail	6.3	4.7	1.6	2.9	2.4	0.5	7.4	6.1	1.3
Food and beverage	6.0	4.4	1.6	3.1	2.4	0.7	7.7	6.0	1.7
Protective services	6.5	4.8	1.7	3.9	3.2	0.8	9.8	7.9	1.9
Childcare and home support	9.2	6.8	2.4	4.3	3.6	0.7	10.9	9.0	1.8
Travel and accommodation	7.9	6.0	1.9	4.2	3.5	0.7	10.5	8.7	1.8
Trades, transport and equipment operators	7.4	5.5	1.9	4.0	3.4	0.6	10.1	8.5	1.6
Contractors and supervisors	6.1	4.0	2.1	3.0	2.4	0.6	7.4	6.0	1.4
Construction trades	8.4	6.3	2.1	4.9	4.2	0.7	12.2	10.4	1.8
Other trades	7.3	5.3	2.0	3.4	2.9	0.6	8.6	7.2	1.4
Transport equipment operators	6.5	4.9	1.6	4.1	3.4	0.7	10.2	8.6	1.7
Helpers and labourers	9.0	7.0	2.1	5.2	4.5	0.7	13.0	11.1	1.9
Occupations unique to primary industry	5.8	4.2	1.6	3.5	2.8	0.7	8.8	7.0	1.9
Occupations unique to production	8.8	6.6	2.3	4.4	3.8	0.6	11.0	9.4	1.6
Machine operators and assemblers	8.7	6.4	2.3	4.3	3.7	0.6	10.7	9.2	1.6
Labourers	9.5	7.3	2.2	5.1	4.4	0.7	12.6	10.9	1.7

Source: Labour Force Survey

\* Absent workers divided by total.

\*\* Hours absent divided by hours usually worked.

† Inactivity rate multiplied by working days in year (250).

**Table 4: Absence rates for full-time paid workers by workplace size, job tenure, job status and union coverage, 2002, excluding maternity leave**

	Incidence*			Inactivity**			Days lost per worker in year†		
	Total	Own illness or disability	Personal or family responsibilities	Total	Own illness or disability	Personal or family responsibilities	Total	Own illness or disability	Personal or family responsibilities
		%	%		days				
Workplace size									
Both sexes	7.6	5.5	2.1	3.6	2.9	0.7	9.0	7.3	1.7
Under 20 employees	6.6	4.6	2.0	3.0	2.4	0.6	7.6	6.0	1.6
20 to 99 employees	7.7	5.6	2.2	3.6	2.9	0.7	8.9	7.2	1.7
100 to 500 employees	8.1	5.9	2.1	3.9	3.2	0.7	9.8	7.9	1.9
Over 500 employees	8.5	6.5	2.0	4.4	3.7	0.6	10.9	9.3	1.6
Job tenure									
Both sexes	7.6	5.5	2.1	3.6	2.9	0.7	9.0	7.3	1.7
1 to 12 months	6.7	4.7	2.0	2.7	2.1	0.6	6.8	5.3	1.5
Over 1 to 5 years	7.5	5.3	2.2	3.3	2.6	0.7	8.3	6.5	1.8
Over 5 to 9 years	7.5	5.3	2.2	3.6	2.9	0.7	9.0	7.3	1.7
Over 9 to 14 years	8.5	6.3	2.2	4.3	3.6	0.7	10.8	9.0	1.8
Over 14 years	8.0	6.0	2.0	4.3	3.7	0.6	10.8	9.1	1.6
Job status									
Both sexes	7.6	5.5	2.1	3.6	2.9	0.7	9.0	7.3	1.7
Permanent	7.7	5.6	2.1	3.6	3.0	0.7	9.1	7.4	1.7
Non-permanent	6.7	4.7	2.0	3.1	2.5	0.7	7.8	6.1	1.6
Union coverage									
Both sexes	7.6	5.5	2.1	3.6	2.9	0.7	9.0	7.3	1.7
Union member or covered by collective agreement	9.4	7.3	2.1	5.1	4.3	0.8	12.7	10.8	1.9
Non-unionized	6.6	4.5	2.1	2.8	2.2	0.6	7.1	5.5	1.6

Source: Labour Force Survey

\* Absent workers divided by total.

\*\* Hours absent divided by hours usually worked.

† Inactivity rate multiplied by working days in year (250).

**Table 5: Absence rates for full-time paid workers by province, region and census metropolitan area (CMA), 2002, excluding maternity leave**

Province and region	Incidence*			Inactivity**			Days lost per worker in year†		
	Total	Own illness or disability	Personal or family responsibilities	Total	Own illness or disability	Personal or family responsibilities	Total	Own illness or disability	Personal or family responsibilities
	%			%			days		
<b>Both sexes</b>	<b>7.6</b>	<b>5.5</b>	<b>2.1</b>	<b>3.6</b>	<b>2.9</b>	<b>0.7</b>	<b>9.0</b>	<b>7.3</b>	<b>1.7</b>
Atlantic	7.6	5.7	1.8	3.8	3.2	0.6	9.6	8.1	1.5
Newfoundland and Labrador	6.3	4.6	1.7	3.3	2.7	0.6	8.3	6.7	1.6
Prince Edward Island	7.4	5.2	2.2	3.4	2.8	0.6	8.5	6.9	1.6
Nova Scotia	8.2	6.2	2.1	4.1	3.5	0.7	10.3	8.7	1.6
New Brunswick	7.6	6.0	1.6	3.9	3.4	0.5	9.7	8.4	1.3
Quebec	7.5	5.7	1.9	3.9	3.3	0.6	9.7	8.3	1.4
Ontario	7.5	5.2	2.3	3.3	2.6	0.7	8.3	6.5	1.8
Prairies	7.9	5.7	2.2	3.6	2.9	0.7	8.9	7.2	1.8
Manitoba	8.6	6.5	2.1	4.0	3.3	0.7	9.9	8.2	1.7
Saskatchewan	8.6	6.2	2.4	4.1	3.3	0.8	10.2	8.3	2.0
Alberta	7.5	5.4	2.2	3.3	2.6	0.7	8.3	6.5	1.8
British Columbia	7.5	5.6	1.9	3.8	3.1	0.7	9.4	7.7	1.7
<b>CMA</b>									
<b>Both sexes</b>	<b>7.6</b>	<b>5.5</b>	<b>2.1</b>	<b>3.6</b>	<b>2.9</b>	<b>0.7</b>	<b>9.0</b>	<b>7.3</b>	<b>1.7</b>
All CMAs	7.6	5.4	2.1	3.5	2.8	0.7	8.6	6.9	1.7
St. John's	7.3	5.2	2.1	3.4	2.7	0.7	8.5	6.8	1.8
Halifax	8.2	5.9	2.2	3.8	3.0	0.7	9.4	7.6	1.8
Saint John	7.2	5.6	1.6	3.8	3.3	0.5	9.4	8.2	1.2
Chicoutimi-Jonquière	6.4	4.7	F	3.7	3.1	F	9.2	7.8	F
Québec	7.2	5.2	2.0	3.8	3.0	0.8	9.4	7.4	2.0
Montréal	7.7	5.7	2.0	3.7	3.2	0.6	9.3	7.9	1.4
Trois-Rivières	7.2	5.8	F	4.3	3.8	F	10.6	9.6	F
Sherbrooke	7.2	5.6	F	3.8	3.3	F	9.5	8.3	F
Gatineau	9.6	7.2	2.3	4.3	3.6	0.7	10.7	9.0	1.8
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Hamilton	6.8	4.9	1.9	2.9	2.3	0.6	7.3	5.7	1.5
St. Catharines-Niagara	7.9	5.8	2.0	3.8	3.1	0.7	9.4	7.7	1.7
London	6.7	4.6	2.1	2.9	2.2	0.7	7.4	5.6	1.8
Windsor	8.1	6.1	2.0	4.1	3.5	0.7	10.3	8.6	1.7
Kitchener-Waterloo	8.3	5.7	2.6	3.1	2.5	0.7	7.8	6.1	1.7
Oshawa	7.8	5.3	2.5	3.2	2.5	0.7	8.1	6.3	1.7
Thunder Bay	8.6	6.3	F	4.6	3.7	F	11.4	9.3	F
Winnipeg	8.8	6.8	2.0	4.1	3.5	0.6	10.2	8.7	1.5
Regina	9.6	7.2	2.4	4.5	3.6	0.8	11.2	9.0	2.1
Saskatoon	7.8	5.6	2.2	3.4	2.8	0.6	8.5	7.0	1.5
Calgary	7.0	5.2	1.8	3.1	2.5	0.5	7.7	6.3	1.3
Edmonton	7.9	5.5	2.4	3.4	2.6	0.9	8.6	6.5	2.1
Vancouver	6.9	5.2	1.7	3.3	2.7	0.5	8.2	6.8	1.3
Victoria	8.0	5.8	2.2	4.2	3.3	0.9	10.4	8.2	2.3
Non-CMAs	7.5	5.5	2.1	3.8	3.2	0.6	9.6	8.0	1.6
Urban centres	8.0	6.0	2.1	4.0	3.2	0.7	9.9	8.1	1.9

Source: Labour Force Survey

\* Absent workers divided by total.

\*\* Hours absent divided by hours usually worked.

† Inactivity rate multiplied by working days in year (250).



## Data source and definitions

The data in this article are annual averages from the **Labour Force Survey (LFS)**. They refer to full-time employees holding only one job. Part-time, self-employed and unpaid family workers are excluded because they generally have more opportunity to arrange their work schedules around personal or family responsibilities. Multiple jobholders, too, are excluded because it is not possible using LFS data to allocate time lost, or the reason for it, to specific jobs. Women on maternity leave are also excluded. Some human resource practitioners exclude persons on long-term illness or disability leave (exceeding one year) from their attendance management statistics. Such persons are, however, included in Statistics Canada's work absence estimates if they count themselves as employed (that is, they continue to receive partial or full pay from their employer). In 2002, the number of employed persons on such long-term illness or disability leave averaged only 22,000 in a typical week. Their exclusion would have reduced the weekly work absence incidence for illness or disability from 5.5% to 5.3%, the inactivity rate from 2.9% to 2.7%, and days lost per worker that year from 7.3 to 6.8.

**Personal reasons for absence** are split into two categories: 'own illness or disability' and 'personal or family responsibilities' (caring for own children, caring for elder relative, and other personal or family responsibilities). Absences for these two reasons represented about 28% of all time lost by full-time paid workers each week in 2002. Vacations, which accounted for about 44% of total time away from work, are not counted in this study, nor are statutory holidays, which represented 12%. Maternity leave represented 9% and other reasons, 6%.

The **incidence of absence** is the percentage of full-time paid workers reporting some absence in the reference week. In calculating incidence, the length of work absence—whether an hour, a day, or a full week—is irrelevant.

The **inactivity rate** shows hours lost as a proportion of the usual weekly hours of full-time paid workers. It takes into account both the incidence and length of absence in the reference week.

**Days lost per worker** are calculated by multiplying the inactivity rate by the estimated number of working days in the year (250).

### Reasons for work absences in the LFS

The LFS sets out the following reasons for being away from work:

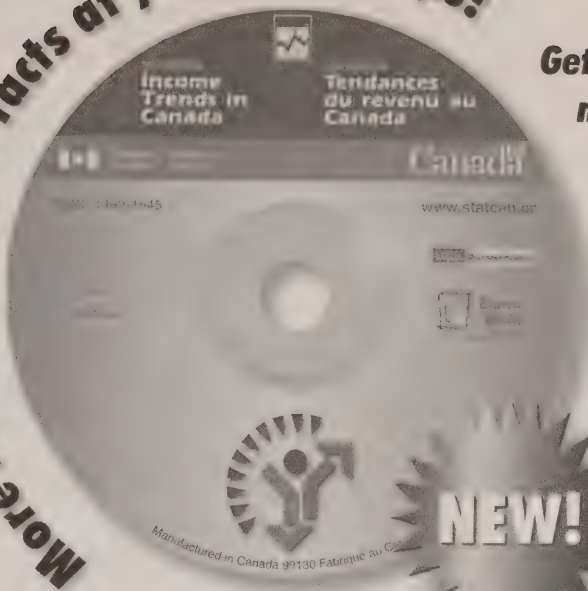
- own illness or disability
- caring for own children
- caring for elder relative (60 years or older)
- maternity leave (women only)
- other personal or family responsibilities
- vacation
- labour dispute (strike or lockout)
- temporary layoff due to business conditions
- holiday (legal or religious)
- weather
- job started or ended during week
- working short time (because of material shortages, plant maintenance or repair, for instance)
- other

As normally published, personal or family responsibilities consist of caring for own children, caring for elder relative, and other personal or family responsibilities.

*For further information, contact Ernest B. Akyeampong, Labour and Household Surveys Analysis Division. He can be reached at (613) 951-4624 or [ernest.akyeampong@statcan.ca](mailto:ernest.akyeampong@statcan.ca).*

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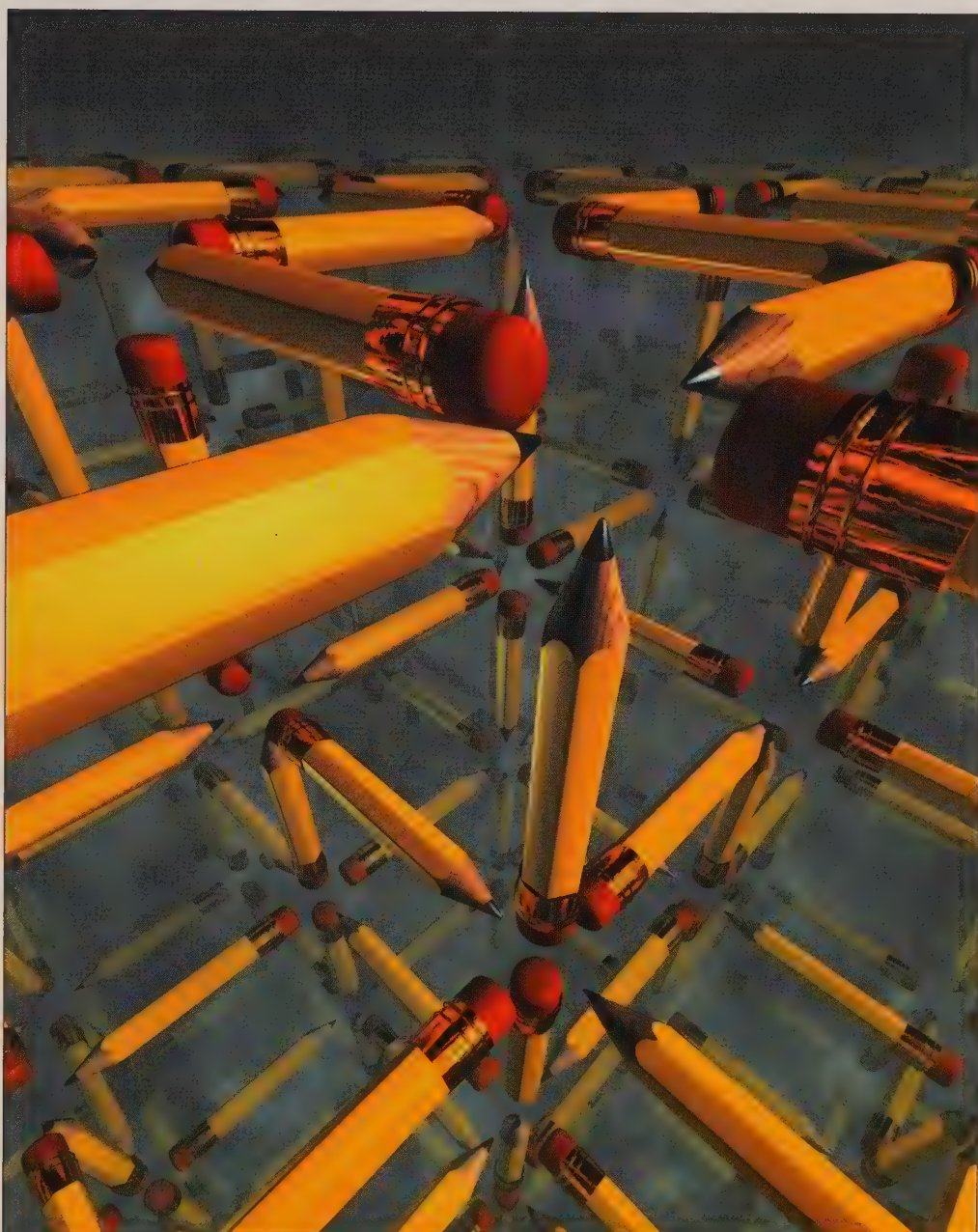
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**AUTUMN 2003**

Vol. 15, No. 3

- PROPERTY TAXES
- IT WORKERS
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- THE GRIEVANCE SYSTEM
- WHO PAYS FOR DOMESTIC HELP?
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ON LABOUR AND INCOME

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  - Unionization*
  - Property taxes*
- 63 In the works

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## ■ Articles

### 7 Property taxes

*Raj Chawla and Ted Wannell*

Property tax is one of the three main taxes paid by households. It is levied on a property's market or assessed value and is not directly related to the ability to pay. The burden of the tax varies by province and household income. Property taxes increase family income inequality.

### 15 Information technology workers

*Roman Habtu*

The rapid growth of the information, communication and technology industry in the 1990s created a surge in demand for people skilled in computer specialties. As demand grew, so did supply. The 2001 Census collected the first information about these new occupations.

### 23 Sources of workplace stress

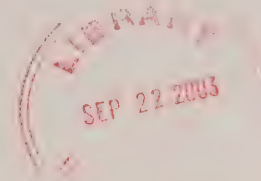
*Cara Williams*

A look at some of the triggers of workplace stress among employed Canadians, highlighting differences between the self-employed and employees, full-time and part-time employees, and occupation groups. The article also examines whether certain demographic characteristics are associated with work environment stress triggers.

### 31 Unionization and the grievance system

*Ernest Akyeampong*

Since the employer-employee relationship is not one of equal power, employees may benefit from access to procedures for settling disputes. These are generally referred to as the grievance system, or the dispute- or complaint-resolution system.





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The paper used in this publication meets the minimum requirements of American National Standard for Information Sciences – Permanence of Paper for Printed Library Materials, ANSI Z39.48 – 1984.

## 39 Who pays for domestic help?

*Boris Palameta*

Canadians have become increasingly 'time poor.' Time allocated by families to paid work has increased, leaving less time for necessary household chores. One way to relieve time pressure, especially for women, is to hire domestic help. An important factor influencing the decision to purchase home services is the wife's share of household income.

## 43 Productivity and prosperity in the information age

*Kaïs Dachraoui, Tarek M. Harchaoui and Faouzi Tarkhani*

Productivity is not only the key to the performance of firms and industries, it is fundamental to living standards. This article describes productivity trends since 1981, the role of different industries and information technology in the recent acceleration, and the implications for Canada's prosperity.

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## Perspectives on Labour and Income

*The quarterly for labour market and income information*

# Forum

■ To the large number of you who responded to our readership survey, included in the previous issue, we would like to say thank you for your participation and your many comments. The survey helped us better understand what you like about *Perspectives* as well as what you would like to see.

## A quick rundown of the results:

The typical subscriber reads *Perspectives* as part of their professional life, is between the ages of 40 and 59, and generally has an advanced education. Respondents came from a variety of sectors, with many responsible for human resources.

The satisfaction rate was high. Three-quarters of respondents found the publication easy to read, and more than 80% indicated that the information was clear and the charts and tables useful. Some 93% found the topics interesting, and about three in four were very pleased with the layout (colour, cover, tables and charts).

Many readers had used data from *Perspectives* articles, more than half of these for a report or presentation. Many would like to see more frequent analysis of current labour market conditions as well as articles on human resource issues.

Some 98% had access to the Internet, the majority via a high-speed connection. On the other hand, almost all read the paper version of the publication—surprising since a subscription to the online version allows free access to previous issues.

Congratulations to our five readers who won an online subscription, allowing them to become more familiar with this side of *Perspectives*.

We will attempt to accommodate your many suggestions in future publications. Finally, 88% of you indicated reading every issue! Thank you for your loyalty.

Ted Wannell  
Assistant Director  
Labour and Household Surveys Analysis Division  
E-mail: ted.wannell@statcan.ca

## Perspectives

**We welcome your views** on articles and other items that have appeared in *Perspectives*. Additional insights on the data are also welcome, but to be considered for publication, communications should be factual and analytical. We encourage readers to inform us about their current research projects, new publications, data sources, and upcoming events relating to labour and income.

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# Highlights

## *In this issue*

### ■ Property taxes

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- Average property taxes in 1998 were highest in Central Canada (\$2,230 in Ontario and \$2,030 in Quebec) and lowest in Newfoundland and Labrador (\$640).
- Families in British Columbia, where property values are relatively higher, did not necessarily pay higher property taxes. In 1998, they paid 0.7% of market value compared with 1.9% in Quebec and Manitoba.
- Income taxes far exceed property taxes. In 1998, the majority of families paid less than 5% of their income in property taxes while spending 10% or more on income tax. Overall, income tax averaged more than seven times the property tax bill.
- While income taxes are progressive (reducing income inequality), property taxes are regressive (increasing inequality). Families with incomes of \$100,000 or more paid 28.6% in income tax compared with only 1.8% in property tax. The respective shares were 4.0% and 10.0% for those with incomes under \$20,000. Property taxes were most regressive at the bottom of the income distribution.
- Since property taxes are not related to the ability to pay, the elderly and those in low-income groups paid proportionately more. Even though on average the elderly had significant financial assets and home equity, the low-income elderly paid 11.7% of their income in property taxes while their non low-income counterparts paid just 4.2%.

### ■ Information technology workers

... p. 15

- Over 387,000 people were employed in information technology (IT) occupations in 2001, accounting for nearly 3% of all employed Canadians.
- Over half of IT specialists worked as information systems analysts and computer programmers (52%), and nearly one-quarter as user support technicians, and computer and network operators (24%). The remainder were computer and software engineers (14%), and web designers, database analysts, and systems testing technicians (11%).
- IT specialists are relatively young, highly educated and command high earnings. Median earnings in 2001 were over \$45,000 compared with \$28,000 for all employed Canadians.
- Two-thirds of IT specialists worked in five urban centres. Ottawa-Gatineau had the highest concentration—8% of all workers.
- More than one-quarter (27%) of IT specialists in 2001 were women. Highly educated, a majority were specialized in the non-traditional science, engineering and mathematics field of study. However, they commanded lower median earnings (\$41,000) than men.
- Immigrants accounted for almost one-third (32%) of workers in IT specialties, and nearly half arrived in Canada in the 1990s. Three in 10 arrived after 1996, a period coinciding with the high-tech boom. By contrast, immigrants constituted 20% of workers in all occupations, and only 30% arrived in the 1990s.

## ■ Sources of workplace stress ... p. 23

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- In both 1994 and 2000, 34% of working Canadians cited too many demands or hours as the most common source of workplace stress.
- In 2000, about 37% of full-time workers felt stress at work as a result of too many demands or hours, compared with 20% of part-time workers.
- Almost one-quarter of employees working a rotating shift worried about accident or injury, compared with only 11% of daytime employees.
- Holding other factors constant, employees in health-related occupations were about seven times more likely than those in management, business, finance, or sciences to cite fear of accident or injury as a source of stress.
- Age has some influence on the type of workplace stress an individual experiences. For example, about 16% of workers 45 and older felt that having to learn computer skills was a source of stress, compared with only 8% of those aged 15 to 24.

## ■ Unionization and the grievance system ... p. 31

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- Approximately half of all employees covered by the Workplace and Employee Survey had access to a workplace grievance system in 1999. The accessibility rate among unionized workers (85%) was much higher than among non-unionized workers (35%).
- The likelihood of having a grievance system increased with establishment size—44% of small firms (under 20 employees) compared with 95% of large firms (over 500).
- About 11% of employees with access to a system filed a grievance in 1999. The overall filing rate of unionized workers, who have more access, scarcely differed from that of non-unionized workers.

- Grievance resolution through a manager/supervisor or management committee was more common for non-unionized workers; for unionized workers, more formal settlement mechanisms (labour-management committee, outside arbitration) were more common.
- About 6 in 10 persons filing a grievance in 1999 perceived some improvement in their post-grievance situation—about 7 in 10 non-unionized workers and 5 in 10 unionized workers.
- About 91% of workers with grievance privileges indicated they were satisfied or very satisfied with their overall job, and 77% said the same with respect to pay and benefits. For those without access, the corresponding percentages were slightly lower, at 88% and 72%.

## ■ Who pays for domestic help? ... p. 39

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- Wives spend significantly more time housecleaning than husbands, in all types of households. Paying for domestic help is a way to reclaim some of that time.
- The likelihood of buying domestic help depends on both household income and the wife's share of it. High-income households are generally more likely, but so are low-income households if the wife earns most of the income.
- Households with a larger home, young children, or an older wife are also relatively likely to pay for domestic help.

## ■ Productivity and prosperity in the information age ... p. 43

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- In the late 1990s, the Canadian economy put on a remarkable performance. Economic growth was more rapid than in the 1981-1988 expansionary period (3.8% compared with 3.1%).
- Canada's increase in multifactor productivity in the 1990s improved not only relative to the U.S. but also by international standards.



# Property taxes

*Raj K. Chawla and Ted Wannell*

MUNICIPAL GOVERNMENTS PROVIDE many of our most visible services: water, snow removal, garbage collection, policing, and fire protection. The mix of services varies somewhat from province to province, since the framework for municipal services and financing is the domain of provincial governments.<sup>1</sup> Furthermore, the level and mix of services may vary within provinces because of the autonomous authority granted to municipalities.

Regardless of the services provided, property taxes are the major source of revenue for local governments across the country.<sup>2</sup> Municipal governments levy such taxes annually on residential, commercial and industrial properties. Other sources of income include grants or subsidies from the province.

Homeowners pay property tax directly to their local government whereas renters pay through their rent. The tax due is typically calculated by multiplying the assessed value of the property by the tax rate—commonly referred to as ‘mill rate’ and expressed as dollars of tax per \$1,000 of assessed value. Residential properties are usually taxed at lower rates than non-residential properties.<sup>3</sup> For example, in Ontario the residential rate is 85% of the non-residential rate (Slack 2000; OFTS 1993).

Property tax is one of the three main taxes paid by households. The other two are income tax and sales tax. Property tax differs in that it is a tax on an asset rather than a financial flow. Property tax is levied on the full value of the property, not the owner’s equity.

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Since property taxes are not directly related to the ability to pay, they may be a particular burden for some homeowners. How is this burden distributed across families with different levels of income? Does the burden vary among the provinces? Do property taxes contribute to after-tax income inequality in Canada? These questions are addressed using information on assets, liabilities and income. Because renters generally do not know the portion of their rent attributable to property taxes, the analysis is limited to homeownership families (see *Data source and definitions*).

## Property taxes highest in Central Canada

In 1998, the average homeowner paid \$1,830 in property taxes (Table 1), ranging from \$640 in Newfoundland and Labrador to \$2,230 in Ontario. Quebec was the only other province higher than the Canadian average, at \$2,030. In general, property taxes were lower in the Atlantic provinces and higher in Ontario and Quebec, with the Western provinces in the middle.

Property taxes are based on two factors: assessed value and mill rate. The assessed value was not available, but homeowners did estimate the current value of their homes. According to these estimates, average property values were highest in British Columbia (\$219,000) and Ontario (\$183,000), followed by Alberta (\$137,000) and Quebec (\$109,000). In the remainder of the country, the average home was valued between \$71,000 and \$92,000.

Dividing the property tax by the estimated property value yields an estimate of the effective property tax rate. Using this approximation, homeowners in Quebec, Manitoba and Saskatchewan were the most heavily taxed in 1998—1.8% to 1.9% of the estimated property value. At the opposite end of the scale, British Columbian homeowners paid just 0.7%. The effective property tax rates of other provinces were in a tight band between 0.9% (Newfoundland and Labrador) and 1.2% (Ontario).

Table 1: Families by proportion of pre-tax income spent on property and income tax by province, 1998

	Canada	Nfld. Lab.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
	%										
<b>Property tax</b>											
Less than 2.50%	40.5	78.0	65.4	65.1	69.6	29.5	32.1	36.1	43.8	55.8	55.1
2.50 – 4.99%	35.9	18.3	23.9	25.9	20.2	41.0	40.0	37.6	35.1	28.8	28.6
5.00 – 7.49%	11.6	2.1	5.9	4.7	3.6	14.2	13.7	14.7	11.9	7.9	7.8
7.50 – 9.99%	5.1	0.8	2.1	1.9	3.3	6.2	6.2	4.3	4.2	3.8	3.5
10.00 – 24.99%	5.9	0.7	2.8	2.0	3.0	7.9	6.9	6.1	4.1	3.2	4.3
25.00% or more	0.9	0.0	0.0	0.5	0.3	1.2	1.1	1.2	0.8	0.6	0.8
Mean ratio	2.9	1.4	2.0	2.0	1.9	3.4	3.2	3.1	2.8	2.1	2.3
<b>Income tax</b>											
Less than 2.50%	11.5	21.3	13.9	18.4	18.3	11.8	8.8	12.7	13.8	12.4	12.6
2.50 – 4.99%	3.7	3.5	4.5	3.9	4.9	3.1	4.1	3.3	3.5	4.1	3.1
5.00 – 7.49%	3.9	6.7	4.3	3.8	5.5	2.7	4.9	5.1	3.1	2.7	3.7
7.50 – 9.99%	5.6	6.9	7.5	5.3	7.1	5.2	5.7	4.5	5.9	5.4	5.9
10.00 – 24.99%	58.8	52.6	60.3	59.8	55.4	47.0	64.5	61.5	59.1	63.6	60.9
25.00% or more	16.5	9.0	9.6	8.6	8.9	30.3	12.1	12.8	14.7	11.9	13.9
Mean ratio	21.3	17.9	18.1	18.3	17.5	24.5	20.5	20.4	20.5	20.8	20.7
Mean pre-tax income (\$)	63,640	46,620	50,340	49,070	47,440	59,810	70,480	57,980	53,830	66,430	63,220
Mean home value (\$)	149,790	70,920	92,900	87,540	79,430	109,130	183,420	92,350	84,120	136,530	219,170
Mean property tax (\$)	1,830	640	1,010	990	900	2,030	2,230	1,770	1,480	1,380	1,430
Mean income tax (\$)	13,560	8,340	9,120	9,000	8,300	14,630	14,470	11,850	11,010	13,800	13,110
Property tax to home value ratio (%)	1.22	0.90	1.09	1.13	1.13	1.86	1.22	1.92	1.76	1.01	0.65
Families ('000)	6,888.9	112.2	34.9	218.0	193.2	1,661.4	2,534.1	271.5	248.9	723.5	891.3

Source: Survey of Financial Security, 1999

### On average, income taxes far exceed property taxes

Property taxes constitute a fairly small proportion of the overall family tax burden. The average family income tax bill of \$13,600 was more than seven times the average property tax bill. As a proportion of total income, 21.3% went for income taxes compared with 2.9% for property taxes.

Quebec had the highest rate of both income taxes (24.5%) and property taxes (3.4%). Income taxes are up 20% to 21% of family income west of the Quebec-Ontario border, and 17% to 18% in the Atlantic provinces. In relation to income, property taxes were highest in Quebec, Ontario and Manitoba, falling off towards the east and west coasts.

Looking only at averages can understate the property tax burden for some families. Although more than three-quarters of families spent less than 5% of their income on property taxes in 1998, 1 in 15 spent more than 10%. Quebecers again felt the sting dispropor-

tionately, with 9.1% spending at least a tenth of their income on municipal taxes. Ontario (8.0%) and Manitoba (7.3%) also showed relatively high numbers.

### Income tax is progressive

A tax set at a fixed percentage of income or expenditure is termed a proportionate or flat-rate tax. For example, the GST is 7% on something that costs \$1 or \$10,000. In contrast, the income tax system is designed to be progressive—the tax rate increases at higher levels of income (see *Tax terminology*). A regressive tax has the opposite relationship with income—the tax rate falls as income increases.

The progressivity of income tax is evident (Table 2). Families with less than \$20,000 of pre-tax income in 1998 paid income tax equalling 4.0% of their income. The income tax rate rises for each successive income class, reaching 28.6% for families that brought in \$100,000 or more—the mark of a progressive rate structure.

**Table 2: Families by proportion of pre-tax income spent on property and income tax by income, 1998**

	Total	Under \$20,000	\$20,000 - \$34,999	\$35,000 - \$49,999	\$50,000 - \$74,999	\$75,000 - \$99,999	\$100,000 or over
%							
<b>Property tax</b>							
Less than 2.50%	40.5	12.8	23.4	29.6	43.3	55.7	75.2
2.50 – 4.99%	35.9	16.4	30.0	44.6	45.8	39.7	23.5
5.00 – 7.49%	11.6	13.6	24.8	17.3	7.9	3.9	0.9
7.50 – 9.99%	5.1	12.7	11.9	5.8	2.3	0.5	0.4
10.00 – 24.99%	5.9	35.8	9.7	2.6	0.5	0.2	0.0
25.00% or more	0.9	8.8	0.2	0.1	0.1	0.0	0.0
<i>Mean ratio</i>	2.9	10.0	5.2	3.9	2.9	2.4	1.8
<b>Income tax</b>							
Less than 2.50%	11.5	66.3	24.1	2.7	0.8	0.2	0.2
2.50 – 4.99%	3.7	9.2	10.1	3.8	0.9	0.1	0.1
5.00 – 7.49%	3.9	6.2	11.3	4.4	1.5	0.7	0.3
7.50 – 9.99%	5.6	6.7	13.1	8.3	2.8	1.9	0.4
10.00 – 24.99%	58.8	9.6	39.9	74.2	79.2	70.4	47.8
25.00% or more	16.5	1.9	1.4	6.6	14.8	26.8	51.3
<i>Mean ratio</i>	21.3	4.0	9.2	15.4	19.2	21.9	28.6
Mean pre-tax income (\$)	63,640	13,800	27,550	42,440	61,750	86,620	151,170
Mean home value (\$)	149,790	111,900	113,710	128,960	150,240	169,920	227,470
Mean property tax (\$)	1,830	1,380	1,440	1,650	1,810	2,090	2,670
Mean income tax (\$)	13,560	560	2,540	6,560	11,880	18,950	43,210
Property tax to home value ratio (%)	1.22	1.24	1.26	1.28	1.20	1.23	1.17
Families ('000)	6,888.9	677.3	1,206.5	1,320.0	1,657.6	1,070.1	957.4
<b>Distribution</b>							
Families	100.0	9.8	17.5	19.2	24.1	15.5	13.9
Total income	100.0	2.1	7.6	12.8	23.3	21.1	33.0
Total income tax	100.0	0.4	3.3	9.3	21.1	21.7	44.3
Total property tax	100.0	7.4	13.7	17.3	23.7	17.7	20.2

Source: Survey of Financial Security, 1999

## Tax terminology

**Effective tax rate:** tax paid as a percentage of total pre-tax income.

**Marginal tax rate:** tax rate levied on the last dollar received in income.

**Progressive tax:** one in which the effective tax rate increases as income increases. The income tax system is progressive.

**Regressive tax:** one in which the effective tax rate falls as income increases.

**Proportional tax:** The effective tax rate remains constant as income changes.

**Flat tax:** All income is taxed at the same rate.

**Elasticity of taxation rate** between income class  $i$  and  $j$  ( $j > i$ ): This coefficient of elasticity ( $E_{ij}$ ), used by Maslove (1973), measures the responsiveness to change in the tax rate due to the change in mean incomes from class  $i$  to  $j$  as follows:

$$E_{ij} = ((R_j - R_i) / (R_j + R_i)) * ((Y_j + Y_i) / (Y_j - Y_i))$$

where  $R_j$  and  $R_i$  are effective tax rates and  $Y_j$  and  $Y_i$  are mean incomes. Because elasticities are calculated in a sequentially paired order (between the second lowest and the lowest, between the third and the second lowest, and so on), no elasticity can be calculated for the lowest income class.

If  $E_{ij} > 0$ , the tax is progressive;

if  $E_{ij} < 0$ , the tax is regressive; and

if  $E_{ij} = 0$ , the tax is proportional between classes.



Families tend to live in increasingly expensive homes as their income increases, although the gradient is much less steep for home values than for income. Families with incomes less than \$20,000 lived in houses with an average value of \$112,000. Those with incomes of \$100,000 and over occupied homes averaging \$227,000. So while average income increased more than tenfold (from \$14,000 to \$151,000), the average home value only doubled.

At the local level, property taxes are generally set up as proportional taxes—the final tax is determined by multiplying the assessed property value times a constant mill rate. The Survey of Financial Security shows that effective property tax rates remain remarkably flat across the country. Homeowners in both the lowest and highest income groups paid 1.2%—also the overall average—of the value of their homes in municipal taxes. No other group varied by more than 0.1 percentage points from the average. Thus, despite the great variation in home values and effective mill rates across the country, property taxes, on average, were proportionate to the value of the property being taxed.

### Property taxes are regressive with respect to income

Although property taxes are proportionate with respect to property values, they are regressive with respect to family income. In 1998, families with incomes under \$20,000 paid 10.0% of their income in property taxes whereas those with incomes of \$100,000 and over paid just 1.8% (Chart A). Between these two extremes, the proportion of income consumed by property taxes declined with each step up in family income.

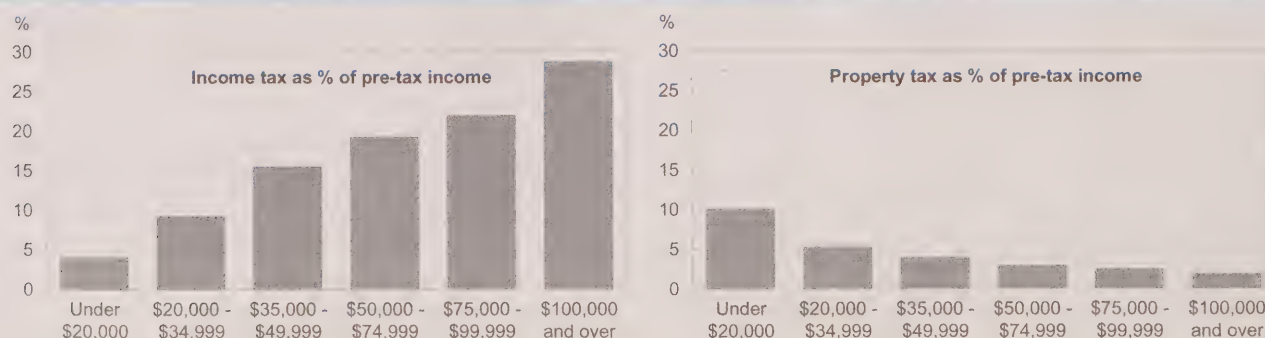
But the burden of property taxes was not the same for everyone within income classes. Property tax share of income varied considerably within groups, particularly at the lower end of the income scale. At the top end, almost all families with incomes of \$100,000 and over paid less than 5% of their income in property taxes. For families bringing in less than \$20,000, a considerable portion (29.2%) also paid less than 5%, but 44.6% paid more than 10%. Furthermore, 1 in 11 families in the lowest income category had tax bills in excess of 25% of their income, a situation that was virtually non-existent among families with incomes greater than \$20,000.

### Quantifying progressivity and regressivity

Comparing the rate of change in tax rates with the rate of change of the income being taxed yields a measure of progressivity termed the 'elasticity' of taxes with respect to income.<sup>4</sup> A positive elasticity indicates a progressive tax structure, zero elasticity a perfectly flat structure, and negative elasticity a regressive structure. While income taxes are clearly progressive across all adjacent income groups, property taxes are consistently regressive (Chart B). The pattern of elasticities across income groups shows that most of the action occurs at the lower end of the income distribution.

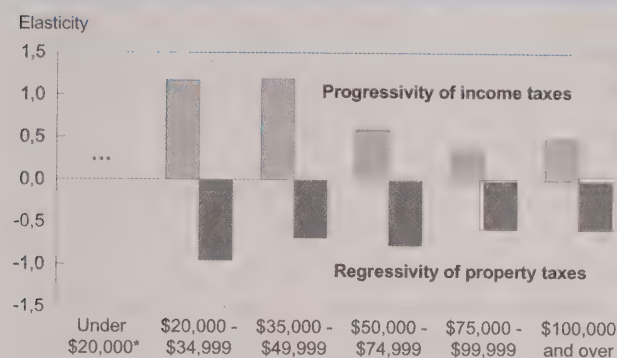
The greatest relative increases in income tax rates occur from the lowest to the lower-middle income groups. These spikes are related to several features of the income tax system. First is the basic progressive structure of income tax rates—they increase across designated income thresholds. Second, some personal deductions at fixed rates provide proportionately

**Chart A: Income tax and property tax shares of pre-tax income move in opposite directions.**



Source: Survey of Financial Security, 1999

**Chart B: Elasticity of income and property taxes is greatest at lower incomes.**



Source: Survey of Financial Security, 1999

\* No elasticity can be calculated.

greater tax relief to low-income individuals. Finally, some means-tested tax credits are clawed back as income increases. These features combine to create large proportionate increases in tax rates in the lower-income range since the starting base is effectively zero.

Similarly, property tax elasticity is most regressive at the bottom end of the distribution. This is related to the similarity in home values (and property taxes) across the three lowest income groups combined with large proportionate changes in income from one group to the next.

### Property taxes and family income inequality

One premise underlying the progressive income tax system is that it reduces inequality in the distribution of income among families. Thus high-income families pay a greater proportion of income in taxes, and the after-tax income distribution is more equal than the pre-tax distribution. For example, families with incomes of \$100,000 and over accounted for 13.9% of all homeownership families but received 33.0% of total income and paid 44.3% of total federal and provincial income tax in 1998. At the other extreme, families with incomes under \$20,000 constituted 9.8% of homeownership families, received 2.1% of total income, and paid 0.4% of income tax.

The Gini coefficient is a standard measure of inequality. Higher coefficients indicate more inequality, lower coefficients signal more equal distributions. The measure varies from 0 (everyone has the same income) to 1

(one family has all the income). Among homeownership families, the Gini dropped from a pre-tax 0.362 to a post-tax 0.321, indicating that income taxes reduced inequality in family incomes by about 11% (Table 3).

Since property taxes are regressive, they have the opposite effect on the Gini coefficient—they raise inequality. Considering the effect of property taxes alone, the Gini coefficient rose from 0.362 pre-tax to 0.369 after. Similarly, with property taxes netted out after income taxes, the 0.321 post-income tax Gini rose to 0.329. The effect of property taxes somewhat negates the effect of income taxes in reducing the income inequality.<sup>5</sup> The reduction of 11% in income inequality by income taxes reversed to 9% after property taxes were taken out of post-income-tax family incomes. However, not all families are equally affected.

**Table 3: Gini coefficients of family income**

	Gini coefficient	Gini index
<b>Total income</b>	<b>0.362</b>	<b>100.0</b>
Minus property taxes	0.369	101.9
Minus income taxes	0.321	88.7
Minus both taxes	0.329	90.9
Income taxes	0.547	...
Property taxes	0.361	...

Source: Survey of Financial Security, 1999

### Property taxes among low-income and elderly families

The elderly and those in low income are the groups most frequently cited as burdened by property taxes. Homeowning families below the low-income cutoff (LICO), both elderly and non-elderly, paid property taxes that were, on average, higher than their income tax bills (Table 4). Property taxes equalled 12% of the income of elderly low-income families and 11% of the income of other low-income families. The average property tax bills of both differed little (maximum of \$350) from those of homeownership families above the LICO. In contrast, families above the LICO paid income tax at rates four to five times higher than below-LICO families (with the absolute differences in dollar amounts higher by a factor of at least 17).



## Data source and definitions

The analysis is based on the **Survey of Financial Security (SFS)**, conducted between May and July 1999. The sample contained 23,000 dwellings from the 10 provinces. Excluded were persons living on Indian reserves, members of the armed forces, and those living in institutions such as prisons, hospitals, and homes for seniors. The SFS interview questionnaire (Catalogue no. 13F0026MIE-01001) is available free on the Statistics Canada Web site at [www.statcan.ca/cgi-bin/downpub/research.cgi](http://www.statcan.ca/cgi-bin/downpub/research.cgi). For more details about the sample, response rates, handling of missing data, weighting, and so forth, see *The assets and debts of Canadians: An overview of the results of the Survey of Financial Security* (Catalogue no. 13-595-XIE).

The survey collected socio-demographic and labour force characteristics of persons aged 15 years and over, and the assets and debts of their families as of the time of the survey. Income for 1998 was compiled from authorized linkage to tax records or collected in person. Collection was by personal interview, although respondents could also complete the questionnaire themselves. Financial data were sought from the family member most knowledgeable about the family's finances. Proxy response was accepted.

The survey also asked about major on-going expenses associated with the principal residence: mortgage payments, property taxes (including school taxes, if paid separately), rent, electricity, water, and other services. Rent was not apportioned to property tax, utility charges, or landlord's share. Although expenses could be reported as a monthly or quarterly average, the data were processed and compiled on an annual basis.

Since missing property tax data were not imputed, homeownership families who did not report property taxes paid in 1998 were excluded from the sample. Thus the analysis is based on a sample of 9,769 or an estimated 6,889,000 homeownership families. Survey data are subject to sampling and non-sampling errors, especially for provinces with relatively smaller samples. Therefore, interprovincial comparisons should be made with caution.

The SFS estimate of property taxes paid in 1998 was \$12.6 billion compared with \$18.3 billion published by the Public Institutions Division (PID) of Statistics Canada (Statistics Canada 2003). The PID data for 1998 are based on a census of municipalities obtained from provincial departments of municipal affairs. (Data for more recent years are based on a sample survey.) One would expect a larger estimate from the administrative data simply because of differences in coverage. While the SFS covers only taxes paid on owner-occupied dwellings, the

administrative data also include taxes paid on rented and vacant dwellings. In addition, the administrative data cover all property taxes collected—commercial and industrial as well as residential. The relationship between the SFS and PID is in the expected direction, but determining if the size of the difference is appropriate would require substantial further study.

**Family:** Refers to economic families and unattached individuals. An economic family is a group of persons sharing a common dwelling and related by blood, marriage (including common law) or adoption. An unattached individual is a person living alone or with unrelated persons.

**Elderly family:** A family with a major income recipient aged 65 or over.

**Major income recipient:** The person in the family with the highest income before tax. If two persons had exactly the same income, the older one was treated as the major income recipient.

**Pre-tax family income:** Sum of incomes received by the six oldest family members aged 15 and over during the calendar year 1998 from all sources: wages and salaries, net income from farm and non-farm self employment, investment income (interest earned, dividends, net rental income, etc.), government transfers (Employment Insurance benefits, Old Age Security, child benefits, Canada/Quebec Pension Plan benefits, social assistance, etc.), retirement pension income, and alimony. Excluded are income in kind, tax refunds, and inheritances.

**Low-income family:** Families are classified using the after-tax low-income cutoffs for 1998 published by Statistics Canada. For more details, see *Income in Canada, 1998* (Catalogue no. 75-202-XPE).

**Income tax paid:** Sum of federal and provincial income tax paid during the calendar year 1998 by all family members.

**Market value of owner-occupied home:** Market value at the time of the survey and as reported by the family member most knowledgeable about the family finances. It is not an assessed value, which is usually less than the market value.

**Gini coefficient:** Used as a measure of inequality in the distribution of income, the Gini coefficient lies between 0 (no inequality) and one (total inequality—that is, one family has all the income). Thus, the closer this coefficient is to 1.0, the greater the inequality in the distribution of incomes among families.



**Table 4: Family income, property taxes, financial assets, and home equity by type of family**

	Pre-tax income (I)	Property tax (PT)	Income tax (IT)	Finan- cial assets*	Equity in home**	Ratio	
						(PT/I)	(IT/I)
			\$				%
Non-elderly							
Low-income	14,040	1,520	820	47,580	91,130	10.8	5.8
Non-low-income	72,940	1,870	16,110	93,650	103,830	2.6	22.1
Elderly							
Low-income	13,360	1,560	450	78,630	132,080	11.7	3.4
Non-low-income	42,740	1,780	7,610	148,920	134,160	4.2	17.8
All families							
Low-income	13,930	1,530	750	52,840	98,060	11.0	5.4
Non-low-income	66,650	1,850	14,340	105,160	110,140	2.8	21.5

Source: Survey of Financial Security, 1999

\* Chequing/savings accounts in financial institutions, term deposits, Canada Savings Bonds, other bonds, stocks, mutual funds, shares in privately held companies, RRSPs, RRIIFs, RESPs, RHOSPs, DPSPs, treasury bills, loans to others, mortgages, and other financial investments.

\*\* Market value of home less outstanding mortgages.

On average, homeownership families—even those below the LICO—had significant assets in 1999 compared with the size of their property tax bill. Regardless of income, elderly homeowners held similar equity in their houses (\$132,000 to \$134,000). Moreover, elderly families above the LICO held an average \$149,000 in financial assets,<sup>6</sup> while those below averaged \$79,000.<sup>7</sup>

### Summary

Property taxes make up a relatively small component of the tax bills of most Canadian families. On average, homeowners paid 2.9% of their family income for property taxes in 1998, compared with 21.3% in income taxes.

Quebec homeowners faced the highest tax burden, paying 24.5% of income for income taxes and

3.4% for property taxes. Along with Manitoba, Quebec had the highest tax rate with respect to the estimated value of the home, at 1.9%. Saskatchewan followed closely at 1.8%, while all other provinces had rates of 1.2% or lower.

Although property taxes are generally manageable for most families, about 1 in 15 paid 10% or more of their income in property taxes. This figure rose to 1 in 11 in Quebec, and was also relatively high in Ontario and Manitoba.

Income taxes and property taxes differ in their relationship to family income. Under Canada's income tax system, higher-income families pay higher rates of income tax—a progressive tax structure. Although property taxes are proportionate with respect to property values across income classes, low-income

families spend a higher proportion of their income on property taxes than do higher-income families. Property taxes are therefore regressive with respect to family income.

The progressive nature of income taxes and regressive nature of property taxes are evident throughout the income distribution, but the steepest gradient for both types of taxes is at the lower end of the income distribution.

The redistributive nature of income taxes lowers a standard measure of inequality (the Gini coefficient) by about 11%. However, property taxes work in the opposite direction, increasing the post-income tax measure by almost 2%.

Although discussions about property tax effects frequently focus on the elderly, data show that low-income families—young or old—pay relatively high proportions of their incomes in property taxes. However, elderly homeowners have relatively high levels of home equity and financial resources, particularly compared with elderly renters.

### Perspectives

#### Notes

1 The role of the province in local decision making is described in Bird and Slack (1993) as follows:

... Since the British North America Act was first implemented, the provinces have had the exclusive right to create or disband municipal corporations. The provinces also determine the powers and responsibilities of their constituent municipalities, and hence their expenditure requirements. They also dictate which revenue sources are available to finance these expenditures. [For example, some provinces delegate primary and secondary

school funding to municipalities, while others fund schools from provincial revenues.] Municipalities can only undertake those functions assigned to them by the provinces.

In each province, there is generally a provincial statute governing various aspects of municipalities. . . . (p. 13)

2 The term 'property' as used in this article refers to an owner-occupied home or farm; property owned but used for rental or business purposes is excluded.

3 Non-residential properties include multi-unit apartments, retail stores, office towers, parking lots, farms and managed forests, vacant land, pipelines, and industrial complexes.

4 Elasticities shown in Chart B are based on pre-tax family incomes. However, use of after-tax family incomes (out of which property taxes are paid) would have resulted in fractionally smaller elasticities but would not have changed the outcome of the analysis.

5 Several provinces offer property tax rebates for lower income homeowners through the income tax system. However, a separate analysis of Ontario and Manitoba—two provinces with such rebate programs—indicate that the net effect of income and property taxes was a smaller drop in inequality than was observed at the national level and in the remaining provinces. So any progressive effect associated with rebates is likely small. A more thorough assessment of this issue would require detailed income tax information on all provincial rebate programs.

6 Financial assets include savings accounts, term deposits, bonds, mutual funds, equity shares, registered savings/retirement income plans, loans, mortgages, and other financial investments.

7 In contrast, elderly renters had much lower average financial assets—\$57,900 for non-LICO families and just \$11,200 for LICO families—and, of course, no home equity (data not shown).

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More information on provincial differences in property taxes can be found in *Key labour and income facts*.

# Information technology workers

Roman Habtu

EMAIL, THE INTERNET and surfing the Web have become as integral to our daily work lives as the telephone. Yet these technologies barely existed a decade ago. The rapid growth of the information, communication and technology industry in the 1990s created a surge in demand for people skilled in computer specialties. As demand grew, so did supply. Information technology (IT) occupations became an attractive profession for people planning or changing their career. The 2001 Census collected the first information about these new occupations using the National Occupational Classification for Statistics, 2001 (see *Data source and definitions*). While some of these occupations may have existed prior to the 1996 Census, the number of jobs within each occupation was not large enough to warrant a separate occupational code.

Except for anecdotal evidence, little is known about the people who design, produce, and service the technology we use every day. Who works in these occupations? What is their education? How many women are there? Or immigrants? Do workers in these occupations

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**Table 1: Labour force activity, experienced labour force\***

	Labour force		Employed		Unemployment rate
	'000	%	'000	%	%
<b>All occupations</b>	<b>15,576.6</b>	<b>100.0</b>	<b>14,695.1</b>	<b>100.0</b>	<b>5.7</b>
All occupations other than natural and applied sciences	14,572.8	93.6	13,738.0	93.5	5.7
Natural and applied sciences	1,003.8	6.4	957.1	6.5	4.7
<b>IT occupations</b>	<b>406.7</b>	<b>2.6</b>	<b>387.5</b>	<b>2.6</b>	<b>4.7</b>
Computer engineers (except software engineers)	27.9	6.9	26.8	6.9	4.1
Information systems analysts and consultants	106.7	26.2	103.1	26.6	3.3
Database analysts and data administrators	14.1	3.5	13.6	3.5	4.0
Software engineers	27.0	6.6	25.9	6.7	3.9
Computer programmers and interactive media developers	102.1	25.1	96.6	24.9	5.4
Web designers and developers	24.2	5.9	22.2	5.7	8.4
Computer and network operators and web technicians	48.1	11.8	45.8	11.8	4.9
User support technicians	49.6	12.2	47.0	12.1	5.2
Systems testing technicians	7.1	1.7	6.6	1.7	6.4

Source: Census of Canada, 2001

\* Those employed in the week prior to census enumeration day, or unemployed and last worked in 2000 or 2001.

prefer self-employment? Do they work longer hours, and how much do they earn? In which industries, provinces and urban centres are they concentrated?

## IT almost 3% of total employment

Over 387,000 people worked in occupations related to information technology in 2001 (Table 1). This number represented almost 3% of all employed Canadians in 2001,

and 40% of those employed in natural and applied sciences and related occupations.

Three-quarters of these workers were employed in four of the nine occupations examined: information systems analysts and consultants, computer programmers, user support technicians, and computer and network operators and web technicians. Computer and software engineers constituted half of those remaining.



Almost 90% of IT workers were employees in 2001, as were workers in all occupations (88%). However, this percentage masks differences within some IT occupations. For example, more than one in four web designers were self-employed.

Finding work seemed to present few problems. At 4.7%, the unemployment rate for IT workers was significantly lower than the overall rate (7.4%); it was also lower than the rate for occupations other than natural and applied sciences (5.7%).<sup>1</sup> This reflects the favourable labour market for most high-technology workers during this period.

### IT attractive to the young and educated

Younger entrants into the labour market were attracted to new occupations in information technology. In 2001, the average age of workers in these occupations was 36 compared with 39 for all occupations and 38 for natural and applied sciences and related occupations (Table 2). Specific occupations had even younger age profiles. For example, nearly 7 in 10 web designers were under 34 with an average age of 32.

A higher proportion of IT specialists (44%) had at least a bachelor's degree compared with those in natural and applied sciences and related occupations (41%). This is more than double the proportion in the employed population (20%). Most specialized in fields of study related to applied sciences, engineering and mathematics (72%)—similar to the overall natural and applied sciences occupation group where three-quarters of all workers specialized in these fields.

### Earnings and hours

Only one in seven employed workers in 2001 earned \$60,000 or more. By contrast, more than one in four IT specialists enjoyed such earnings, as did those in natural and applied science occupations. Furthermore, while more than one in three of the total employed earned less than \$20,000, the proportion was only one in six among IT specialists. Median earnings were also above the national average, indicating high returns to this highly educated group.

Part-time work was less prevalent among IT specialists—6% versus 18% overall. This was also the case among workers in the natural and applied sciences and related occupations.

**Table 2: Characteristics of employed workers**

	All occupations	Sciences	IT occupations
		'000	
<b>Total</b>	<b>14,695.1</b>	<b>957.1</b>	<b>387.5</b>
Average age (years)	39	38	36
		%	
<b>Both sexes</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Men	53.1	78.6	73.0
Women	46.9	21.4	27.0
<b>Immigrant status</b>			
Canadian-born	79.7	72.1	67.6
Immigrant	19.9	27.2	31.5
Non-permanent resident	0.5	0.7	0.8
<b>Education</b>			
High school or less	35.0	8.5	6.7
Postsecondary	45.4	50.5	49.3
Bachelor's degree	19.6	41.0	44.1
<b>Province</b>			
Newfoundland and Labrador	1.3	1.1	0.7
Prince Edward Island	0.4	0.3	0.3
Nova Scotia	2.7	2.2	1.6
New Brunswick	2.2	1.7	1.5
Quebec	23.4	23.4	21.7
Ontario	38.9	42.2	50.0
Manitoba	3.7	2.7	2.3
Saskatchewan	3.3	2.0	1.5
Alberta	10.9	11.9	9.2
British Columbia	12.8	12.2	11.0
Yukon, Northwest Territories and Nunavut	0.3	0.3	0.1
<b>Region</b>			
Urban	80.5	87.9	92.7
Rural	19.5	12.1	7.3
<b>Work status</b>			
Part-time*	18.1	5.9	6.1
Full-time	81.9	94.1	93.9
50 hours or more	21.7	18.0	14.5
Employees	87.6	89.8	89.3
Self-employed**	12.4	10.2	10.7
Average hours worked	39	41	40
<b>Income</b>			
Under \$20,000	35.4	16.4	16.9
\$20,000 - \$39,999	32.1	24.7	24.1
\$40,000 - \$59,999	18.8	29.6	29.6
\$60,000 and over	13.8	29.2	29.4
Median earnings (\$)	28,000	44,900	45,500
<b>Industry</b>			
Manufacturing	13.8	17.8	9.8
Information and culture	2.7	5.8	11.5
Professional, scientific and technical services	6.4	31.7	40.9
Public administration	5.9	10.6	8.8
All other industries	71.2	34.1	29.0

Source: Census of Canada, 2001

\* Less than 30 hours.

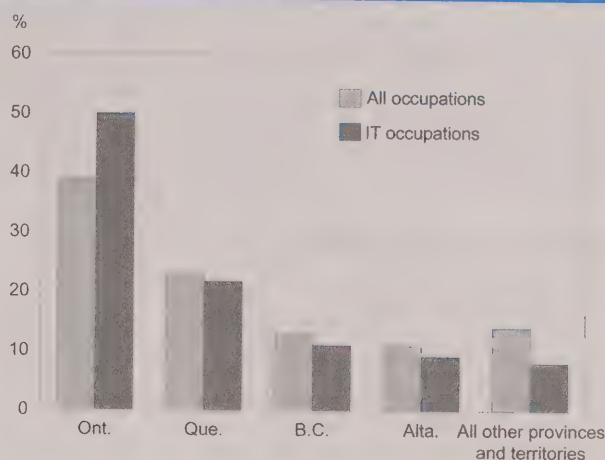
\*\* Incorporated and unincorporated.

Working longer hours is linked with higher earnings, and is largely associated with those with more education (Morissette, Myles and Picot 1993). In 2001, more than one in five employed workers in Canada put in 50 hours or more per week. Given their level of education, one might expect an even higher proportion of IT specialists to put in such long hours. However, only one in seven worked 50 hours or more, a proportion also lower than in natural and applied science occupations. These proportions partly reflect the downturn in demand for IT workers during this period.<sup>2</sup> The exception was web designers, 20% of whom worked long hours. Average hours worked differed little between all the employed, those in natural and applied sciences, and those in information technology.

### IT specialists concentrated in Ontario and in four industries

Seven in 10 IT specialists worked in just four industries—one in four in professional, scientific and technical services alone. Information and culture, another high-tech industry, accounted for 12%;<sup>3</sup> manufacturing, 10%; and public administration, 9%. The latter two likely produced and used high-technology services. By contrast, only one in three of all workers worked in these four industries.

**Chart A: Half of IT specialists worked in Ontario.**

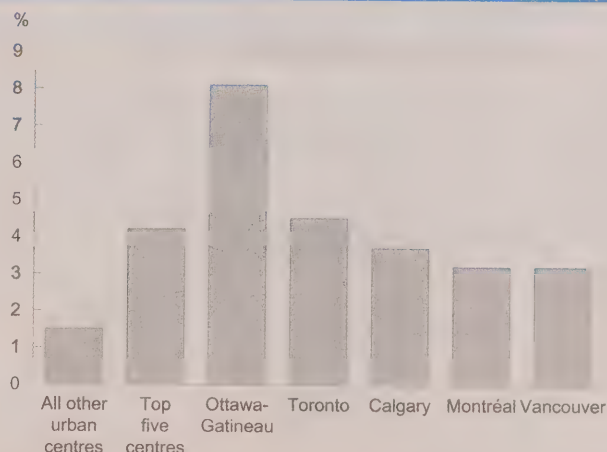
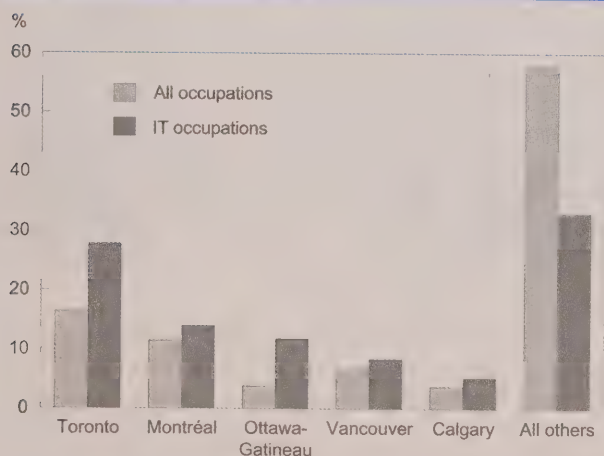


Source: Census of Canada, 2001

Ontario employed one in every two IT specialists in Canada in 2001, substantially higher than its share of all employed (Chart A). Quebec had the second highest proportion (22%), followed by British Columbia (11%) and Alberta (9%). The remaining provinces and territories employed less than 1 in 10.

**Chart B: Two-thirds of IT specialists were located in five metropolitan areas...**

**...with the highest concentration in Ottawa-Gatineau.**



Source: Census of Canada, 2001

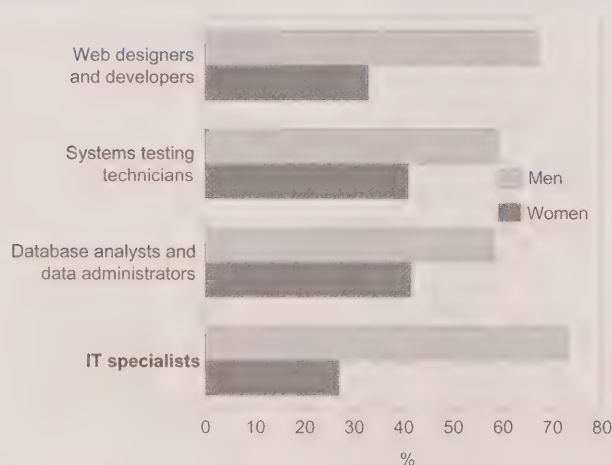
IT specialists were more concentrated in urban areas (93%) than workers overall (81%). Two-thirds were employed in five metropolitan areas: Toronto, Montréal, Ottawa-Gatineau, Vancouver and Calgary (Chart B). The proportion of IT specialists in this group of top five urban centres was almost three times greater than in all other urban centres combined. The highest concentration, over 8%, was in Ottawa-Gatineau. The lower incidence in Toronto and Montréal reflects their much larger workforces.

### Women making inroads

Occupations in information technology were dominated by men (73%). Although this proportion was more than in all occupations (53%), it was still significantly less than for the natural and applied sciences as a whole (79%) (Table 3). Over a quarter of IT workers in 2001 were women. The three with the greatest representation of women were database analysts and data administrators (42%), systems testing technicians (41%), and web designers and developers (33%) (Chart C).

Women in IT occupations had higher than average levels of education. Two in every five held a bachelor's degree or higher, compared with one in five of all employed women. More than half had specialized in

**Chart C: Two in five database analysts in 2001 were women.**



Source: Census of Canada, 2001

applied sciences, engineering and mathematics, compared with less than 1 in 10 of all employed women, suggesting that women have made headway into non-traditional fields of study.

Although women made inroads into IT occupations, they had lower median earnings, even though more than 9 in 10 worked full time in 2001 compared with only three-quarters of employed women overall (Table 4). For example, women employed as database analysts had median earnings of \$38,900 in 2000 compared with \$50,100 for men.<sup>4</sup> Earnings differences may be associated with the slightly lower proportion of women working full time and lower returns to postsecondary education below a bachelor's degree. As in other IT specialties, a high proportion of women employed as database analysts worked full time (90%); however, this was lower than the proportion of men (96%). Furthermore, fewer women in this occupation (43%) had a bachelor's degree or higher compared with men (52%).

In contrast, median earnings for women employed as systems testing technicians (\$40,000) and web designers (\$29,100) were above those of men. This may in part be due to women's higher educational attainment in both these occupations, as well as to the high proportion working full time (particularly for systems testing technicians). However, women's earnings in both occupations were lower than the median for women in all IT specialties (\$41,100). Web designers also had the lowest median earnings among all IT specialists and experienced the highest unemployment rate.

### Contribution of immigrants

In 2001, proportionately more immigrants worked in IT occupations (32%) than in all occupations (20%) (Chart D), and even more than in the natural and applied sciences and related occupations (27%). Immigrants made up nearly half of software engineers, 40% of computer engineers, and more than one-third of computer programmers (Chart E). Furthermore, their representation in every IT occupation was above their overall average (20%).

Nearly half the immigrants working in IT occupations came in the 1990s (49%)—31% in the second half of the decade, a period coinciding with the high-technology boom (Chart F). For example, more than 6 in 10 immigrants employed as software engineers arrived in



**Table 3: Personal characteristics of IT specialists**

	Total	Women	Immigrant		Average age	BA or above
			Both sexes	Women		
	'000	%	%	%	years	%
<b>All occupations</b>	<b>14,695.1</b>	<b>46.9</b>	<b>19.9</b>	<b>45.9</b>	<b>39</b>	<b>19.6</b>
Natural and applied sciences and related occupations	957.1	21.4	27.2	21.4	38	41.0
Professional	525.4	22.2	32.1	22.2	38	60.1
Technical	431.7	20.3	21.2	19.9	38	17.8
<b>IT occupations</b>	<b>387.5</b>	<b>27.0</b>	<b>31.5</b>	<b>26.5</b>	<b>36</b>	<b>44.1</b>
<b>Professional</b>						
Computer engineers (except software)	26.8	14.4	39.5	14.4	37	59.4
Information systems analysts and consultants	103.1	31.2	29.0	29.1	39	47.5
Database analysts and data administrators	13.6	41.5	30.6	40.1	38	48.3
Software engineers	25.9	17.7	47.1	20.1	35	76.0
Computer programmers and interactive media developers	96.6	23.2	36.6	27.8	34	50.1
Web designers and developers	22.2	33.1	24.6	34.4	32	38.1
<b>Technical</b>						
Computer and network operators and web technicians	45.8	25.2	25.0	22.1	36	22.5
User support technicians	47.0	31.0	22.7	25.3	35	21.8
Systems testing technicians	6.6	40.7	35.6	47.5	35	33.2

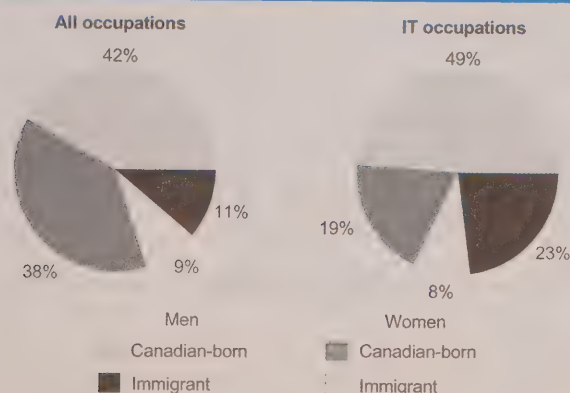
Source: Census of Canada, 2001

Canada between 1996 and 2001. These figures suggest that the 1997 policy to facilitate the entry of immigrants into Canada to work in this field did indeed have the desired effect.<sup>5</sup>

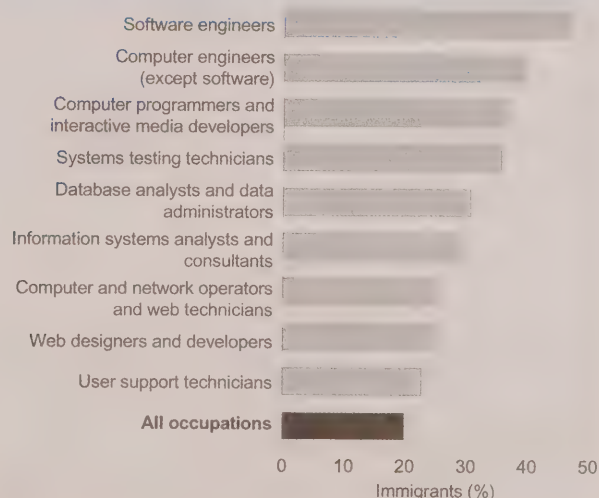
Software engineers had the highest median earnings (\$59,900) of all IT workers, and close to one-third earned at least \$75,000 in 2000.

Immigrant women constituted more than 8% of IT workers. While they were the least represented group, their proportion in IT occupations was comparable with that in all occupations (9%).

Their presence in IT occupations was also similar to that of women in the total population. Nearly one in two immigrants working as systems testing technicians in 2001 were women, as were two in five database analysts, and one in three web designers.

**Chart D: IT occupations employed higher than average proportions of men and immigrants.**

Source: Census of Canada, 2001

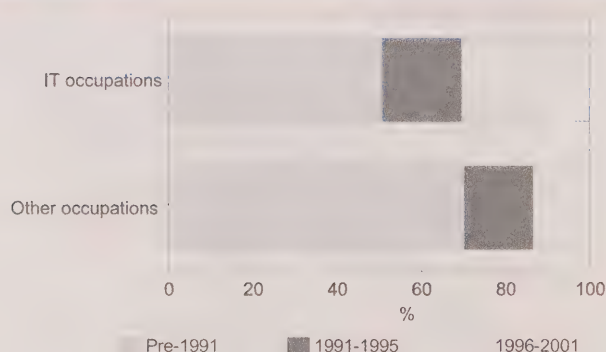
**Chart E: Nearly half of software engineers in 2001 were immigrants.**

Source: Census of Canada, 2001

**Table 4: Employment characteristics of IT specialists**

	Median earnings			Earn \$75,000+	Full-time work		Work 50 hours+
	Both sexes	Men	Women		Men	Women	
		\$			%		
<b>All occupations</b>	<b>28,000</b>	<b>34,000</b>	<b>22,400</b>	<b>6.8</b>	<b>88.4</b>	<b>74.4</b>	<b>21.7</b>
Natural and applied sciences and related occupations	44,900	47,000	37,100	14.6	94.8	91.5	18.0
Professional	50,100	52,700	42,100	20.0	95.2	91.8	18.8
Technical	39,400	40,300	31,500	8.0	94.3	91.1	16.9
<b>IT occupations</b>	<b>45,500</b>	<b>47,100</b>	<b>41,100</b>	<b>14.4</b>	<b>94.6</b>	<b>91.9</b>	<b>14.5</b>
<b>Professional</b>							
Computer engineers (except software)	57,200	59,900	46,000	27.8	97.4	94.5	19.4
Information systems analysts and consultants	52,000	54,400	48,900	19.3	94.6	93.3	15.5
Database analysts and data administrators	45,000	50,100	38,900	12.8	95.6	90.2	10.7
Software engineers	59,900	60,100	50,200	31.5	97.3	94.2	17.7
Computer programmers and interactive media developers	43,900	44,900	40,100	11.3	95.2	92.7	13.1
Web designers and developers	28,400	28,000	29,100	5.2	86.8	80.7	20.3
<b>Technical</b>							
Computer and network operators and web technicians	39,400	40,200	35,000	6.6	93.7	90.7	14.7
User support technicians	34,900	35,000	33,400	5.8	93.7	92.9	9.7
Systems testing technicians	39,900	39,200	40,000	8.9	94.5	94.0	10.7

Source: Census of Canada, 2001

**Chart F: The majority of immigrants in IT occupations arrived in the 1990s.**

Source: Census of Canada, 2001

## Summary

Information technology occupations accounted for nearly 3% of total employment in Canada in 2001. Workers in this field are relatively young and highly

educated. On average, IT specialists in 2001 earned higher employment income and did not work longer hours; fewer were self-employed.

Women made up over one-quarter of IT specialists—4 in 10 database analysts and one-third of web designers. These were, however, relatively low-earning occupations. Web designers and developers, for example, worked relatively longer hours and had lower median earnings compared with other IT occupations.

Recent immigrants were highly represented in IT occupations. Nearly half of software engineers were immigrants, and the majority of them arrived in the second half of the 1990s.

## Perspectives

### Notes

1 The rate is the same for all occupations (experienced labour force) and differs from the higher rate for the labour force (7.4%) because it excludes first-time job seekers as well as those who were out of the labour force in 2000 and 2001 (inexperienced labour force).

## Data source and definitions

In the **2001 Census**, occupations were classified for the first time according to the **National Occupational Classification for Statistics**.

The classification included nine new occupations related to information technology, under the major group 'Natural and applied sciences and related occupations.'

C Natural and applied sciences and related occupations

C0 Professional occupations in natural and applied sciences

C04 Other engineers

C047 Computer engineers (except software engineers)

C07 Computer and information systems professionals

C071 Information systems analysts and consultants

C072 Database analysts and data administrators

C073 Software engineers

C074 Computer programmers and interactive media developers

C075 Web designers and developers

C1 Technical occupations related to natural and applied sciences

C18 Technical occupations in computer and information systems

C181 Computer and network operators and web technicians

C182 User support technicians

C183 Systems testing technicians

Labour force activity in the census is defined as follows:

**Labour force:** the employed and unemployed

**Employed:** those who worked in the reference week (the week prior to census enumeration day) or were absent from work for various reasons

**Unemployed:** those who looked for work in the reference week, were on temporary layoff, or had a job starting in four weeks or less

**Experienced labour force:** employed or unemployed but last worked in 2000 or 2001

**Inexperienced labour force:** those who last worked prior to 2000 or never worked

2 A recent study showed that hours worked fell by more (-8.6%) than employment (-5.4%) in the computer and telecommunications (CT) sector between the last quarters of 2000 and 2001 (Bowlby and Langlois 2002). By contrast, workers in knowledge-based workplaces were working above average hours in the late 1990s (Drolet and Morissette 2002).

3 For more detailed discussion of the high-technology sector, see Bowlby and Langlois 2002.

4 Income information collected in the 2001 Census was based on the reference year 2000.

5 In response to skill shortages in the software industry, the federal government introduced a pilot project in 1997 to facilitate the entry of immigrants with skills in software development. Known as the Software Development Worker Pilot Program, the pilot was aimed at filling positions for which there were no qualified Canadian citizens or permanent residents. The seven occupations identified were senior animation effects editor, embedded systems software designer, MIS software designer, multimedia software developer, software developer services, software products developer, and telecommunications software designer. More information on the program is available on the Citizenship and Immigration Canada Web site at [www.cic.gc.ca/english/press/98/9869-pre.html](http://www.cic.gc.ca/english/press/98/9869-pre.html) (accessed July 15, 2003).

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## Acknowledgements

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# Sources of workplace stress

Cara Williams

**A**N EMPLOYEE SITS AT HER DESK with numerous unread e-mail messages in her inbox, phone ringing, and a report to complete for the next morning. The demands of the job are making her anxious. At a nearby construction site, workers fear layoff as winter approaches. On the other side of town, a warehouse has begun using a computer-based inventory control system, and the staff are nervous about learning how to use it. These are just a few examples of sources of stress in the work environment.

Issues surrounding stress are continually in the media. Books on how to alleviate or live with stress are often bestsellers. But what is workplace stress? The Canadian Centre for Occupational Health and Safety defines workplace stress as the harmful physical and emotional responses that can happen when there is conflict between job demands on the employee and the amount of control an employee has over meeting these demands.

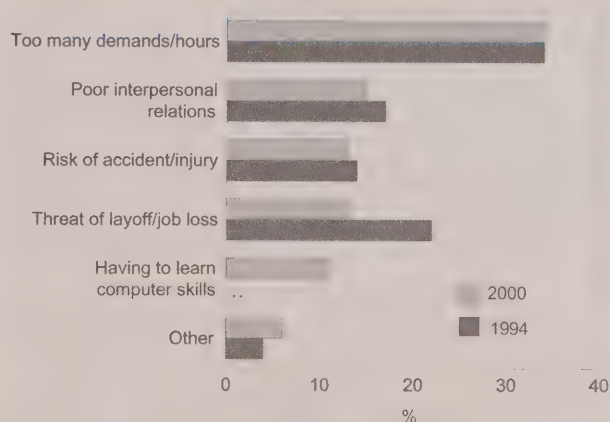
Work, family or other issues, alone or in combination, can lead to stress. While some stress is normal, research has shown that it can lead to the development of chronic conditions within a few years (Statistics Canada 2001). Other studies have shown that workers in high-strain jobs have higher rates of a wide variety of diseases than their counterparts in low-strain jobs (Wilkins and Beaudet 1998).

The costs of workplace stress are not limited to those who experience the stress. The Journal of Occupational and Environmental Medicine reports that health-care expenditures are nearly 50% greater for workers who report high levels of stress.<sup>1</sup> Prolonged stress can be costly to employers since it can result in increased absenteeism or a decline in productivity. For example,

the 1990 Health Promotion Survey showed that absenteeism rose for employees who were concerned about interpersonal relations, job control, management practices, or safety. Additionally, the Canadian Policy Research Networks has estimated that stress-related absences cost employers about \$3.5 billion each year (Duxbury and Higgins 2001).

The causes of stress are varied. In general, job stress is a result of the interaction between the worker and the conditions of work (NIOSH 1999). Perhaps the most commonly cited cause is a lack of time or an excessive workload (Chart). Lack of time may stem from responsibilities at home, at work, or a combination of both. But other triggers (or stressors) are possible. Working too much, fear of accident or injury, poor interpersonal relationships with co-workers or supervisors, or the threat of layoff or job loss can all be sources of stress in the work environment.

**Chart: Triggers of workplace stress were similar in 1994 and 2000.**



Source: General Social Survey

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## Data source and definitions

The **General Social Survey** (GSS) is an annual telephone survey covering the population 15 and over living in private residences in the 10 provinces. Data are collected from January to December. For the 2000 survey on access to and use of information technologies, the sample was about 25,000.

Questions on work environment stress triggers were asked only of those individuals who had worked some time in the last 12 months. This resulted in a weighted count of about 16.9 million respondents 15 and older who had worked at some point in the previous 12 months.

**Full-time workers** are those who usually work 30 or more hours per week.

**Part-time workers** are those who usually work less than 30 hours per week.

**Shift workers** are those who do not have a regular daytime schedule.

### Work stress questions

Has the following thing in your work environment caused you excess worry or stress in the past 12 months:

- too many demands or too many hours?
- risk of accident or injury?
- poor interpersonal relations
- threat of layoff or job loss?
- having to learn new computer skills?
- anything else?

The 1994 GSS on education, work and retirement had about 12,000 respondents. Respondents were asked about their work stress if they held a job at the time of the survey. This resulted in a weighted count of about 8.9 million respondents 15 and older who held a job at the time of the survey.

The workplace stress questions in 1994 were the same as in 2000, excluding the question that asked if respondents felt excess worry or stress in the past 12 months as a result of having to learn new computer skills.

The 1999 **Workplace and Employee Survey** (WES) was used to determine the percentage of employees with access to an employee assistance program. WES consists of two components: a workplace survey that aims to shed light on the relationships between competitiveness, innovation, technology use, and human resource management; and an employee survey that investigates technology use, training, job stability and earnings.

The reference period for WES was mainly the 12 months ending March 1999. The target population for the employer component is defined as all business locations with paid employees operating in Canada excluding Yukon, the Northwest Territories, and Nunavut. Also excluded are employers operating in crop and animal production; fishing, hunting, trapping; private households; and public administration. Just over 6,000 workplaces and about 24,000 employees responded to the survey.

The 1994 and 2000 General Social Surveys (see *Data sources and definitions*) looked at some of the triggers of workplace stress among employed Canadians. With particular focus on the more recent period, this article highlights some of the differences between the self-employed and employees, full-time and part-time employees, and occupation groups. It also examines whether certain demographic characteristics are associated with work environment stress triggers.

## Workers less worried about layoffs in 2000

In both 1994 and 2000, 34% of working Canadians cited too many demands or too many hours as the most common source of workplace stress. However, for various reasons, workplace stressors can change over time. For example, individuals may be more likely to cite certain triggers during times of economic contraction than during times of expansion. The GSS supports this idea. In 2000, when the economy was expanding and jobs were plentiful, only 13% of workers cited fear of job loss or layoff. Conversely, in 1994, with the economy emerging from a prolonged recession and the unemployment rate hovering around 10%, many Canadians were uncertain about their job security. This was undoubtedly a main reason why 22% of employees stated that fear of layoff or job loss was a source of workplace stress.

## Hours/demands most common source of workplace stress

Heavy workloads and long hours can infringe on time spent out of work. New technologies such as the Internet and e-mail have "permanently wired employees to their jobs" (MacBride-King and Bachmann 1999). Thus it is not surprising that too many demands or too many hours was the trigger of workplace stress cited most often by workers in 2000 (34%). In addition, 15% cited poor interpersonal relations, and 13% cited risk of accident and injury.

For some, new technologies can be a source of stress. As companies bring new technologies into the workplace, some people may feel threatened or ill at ease. This can be especially true for older workers or for workers in low-skill jobs. However, according to the 2000 GSS, only about 1 worker in 10 felt that having to learn new computer skills was a source of stress in the work environment.

As mentioned, sources of stress in the workplace can change with economic conditions. In 2000, the economy was growing, unemployment was decreasing,



wages were increasing, and many firms were hiring. Nevertheless, 13% of workers felt stressed by the fear of job loss or layoff. This source of stress may be well-founded since more than 4 in 10 of these individuals felt that it was somewhat likely or very likely that they would lose their job or be laid off sometime during the next year.

### **The self-employed have different workplace stressors**

Many Canadians have turned to self-employment as an alternative to traditional employment.<sup>2</sup> About 2.8 million Canadians were their own boss at some time during 2000. Reasons for choosing self-employment vary from individual to individual. For example, some may be unable to find other work, while others may feel the entrepreneurial pull. Whatever the reason, self-employment offers a different work environment.

But how does self-employment affect stress? Because self-employed individuals report only to themselves and have control over whom they work with, are they less likely than employees to feel stress as a result of poor interpersonal relations? Alternatively, because self-employed individuals rely on themselves, are they more likely to feel stressed because of too many hours?

Indeed, self-employed individuals were significantly less likely than employees to report poor interpersonal relationships (10% versus 16%), or fear of job loss (8% versus 14%) as a source of workplace stress. However, they were slightly more likely than employees to feel stress as a result of too many hours or too many demands in their work environment (37% versus 34%).

### **Multiple workplace stressors for employees**

Individuals may experience stress in their work environment from more than a single source. While about 26% of employees reported only one source and 16% reported two, more than 10% of employees cited three or more. This relatively high incidence of multiple stressors may be one of the reasons for the increasing popularity of employee assistance programs (see *Dealing with workplace stress*).

### **Too many hours, too many demands: the universal complaint**

Man or woman, young or old, full or part time, day or night shift, blue or white collar, the most commonly cited source of workplace stress for employees in 2000

was too many demands or hours. That said, within these groups were differences in the likelihood of experiencing certain stress triggers.

### **Full-time workers**

The vast majority of workers in Canada work full time. Of the 14 million employees<sup>3</sup> aged 15 and older, more than 80% regularly worked 30 or more hours a week. Perhaps because they spent more time at paid work, full-time employees were significantly more likely than part-time workers to cite stress triggers such as fear of injury, layoff, working too many hours, poor interpersonal relationships, or having to learn new computer skills (Table 1). Among full-time workers, almost half (47%) of those working long hours (over 40 hours per week) felt stress from too many demands or too many hours in their work environment.

### **Rotating shift workers more likely to worry about accidents at work**

Some research has shown that shift workers are more likely to have accidents or be injured on the job. Indeed, many of the worst industrial accidents have occurred in the early morning hours and are attributed to staff falling asleep or making bad decisions because of their substantial sleep deficit (Williams 2001).

Even though many shift workers put in a typical 8-hour day, the hours vary. So why are shift workers more prone to accident or injury? The answer is partly that they are unable to catch up on sleep. Some research has shown that night workers slept less during the day, and less deeply when asleep (Rosa and Colligan 1997). The accumulation of sleep debt can result in impaired judgment or delayed reaction time, which in turn can lead to accidents. Indeed, shift workers were more likely than daytime workers to state that they had sleep problems. About one-quarter of those who worked a regular night shift and one-third of those who worked a split shift stated that they routinely had problems falling sleep, compared with 14% of those with a regular daytime schedule.

It is therefore not surprising that virtually all types of shift workers were more likely than daytime workers to worry about accident or injury on the job. Indeed, almost one-quarter of employees working a rotating shift worried about accident or injury compared with only 11% of daytime employees (Table 1).

**Table 1: Workplace stressors by work schedule**

	Total	Too many demands/ hours	Risk of accident/ injury	Poor interpersonal relations	Threat of layoff/ job loss	Having to learn computer skills	Other
	'000				%		
<b>All workers</b>	<b>16,782</b>	<b>34</b>	<b>13</b>	<b>15</b>	<b>13</b>	<b>11</b>	<b>6</b>
Self-employed	2,768	37	12	10	8	11	10
Employees	14,014	34	13	16	14	11	6
Full-time	11,547	37	14	17	15	12	6
30 to 35 hours	1,855	29	11	15	15	11	6
36 to 40 hours	6,085	33	14	17	16	12	6
41 hours or more	3,608	47	16	18	13	13	6
Part-time	2,270	20	9	11	10	7	5
1 to 15 hours	869	16	6	10	8	4 <sup>E</sup>	4 <sup>E</sup>
16 to 29 hours	1,401	22	11	12	11	9	5
Regular daytime	9,532	35	11	15	14	12	6
Shift							
Rotating	1,834	35	24	20	16	11	5
Regular evening or night	1,360	27	16	16	12	5	4
Irregular/split	858	35	17	16	13	11	5 <sup>E</sup>
Other/on call	294	21	11 <sup>E</sup>	15 <sup>E</sup>	13 <sup>E</sup>	F	9 <sup>E</sup>

Source: General Social Survey, 2000

Note: Percentages will not add due to multiple responses.

Although shift workers and daytime workers differed in their worry over accident and injury on the job, equal percentages (35%) cited too many demands or hours in the work environment as a stress trigger. The exceptions were workers with a regular evening or night schedule and those who worked other types of schedules (including on-call). These individuals were slightly less likely to feel that too many demands or too many hours were a source of stress (27% and 21% respectively). Perhaps their schedules allowed them to better balance home and work. For example, individuals working a regular evening or night schedule may be at home during the day and able to meet their family or other responsibilities.

### Managers stressed over hours, primary workers worried about safety

Regardless of occupation, the most commonly cited source of stress was too many demands or hours (Table 2). That said, however, the likelihood of citing various stress triggers varied somewhat by occupation. Managers and professionals<sup>4</sup>—particularly in health-related occupations—were significantly more likely to report too many demands or hours compared with workers in manufacturing, processing, primary, or trades occupations.

Not surprisingly, because of the risk of infection from illness and disease coupled with long hours and irregular shifts, one-third of individuals in health-related occupations felt that the risk of accident or injury was a source of workplace stress. These workers were also much more likely than employees in general to cite multiple sources (42% versus 26%). Individuals in trades, transport and primary occupations were four times as likely as managers and professionals to report risk of accident or injury.

For many, computer technologies have changed the work environment. Certain occupations have been affected more than others. Professional occupations including those in the sciences, education, and health have the highest use of computers (86%) and primary occupations the lowest (24%) (Marshall 2001). This evolving technology requires constant skill upgrading, which many may find stressful. While only about 11% of employees overall felt stress as a result of having to learn computer skills, the percentage among employees in social sciences or education-related occupations was 20%.

Poor interpersonal relationships at work can also be very stressful. This is especially true in today's workplace where employees often have to work as

**Table 2: Sources of workplace stress by occupation**

	Total	Too many demands/ hours	Risk of accident/ injury	Poor inter- personal relations	Threat of layoff/ job loss	Having to learn computer skills	Other
	'000				%		
<b>Occupation</b>	<b>14,014</b>	<b>34</b>	<b>13</b>	<b>16</b>	<b>14</b>	<b>11</b>	<b>6</b>
Management	902	48	5	17	12	13	6
Business, finance and administrative	2,586	38	6	17	16	17	6
Natural and applied sciences	950	45	8	16	18	17	7
Health	621	50	33	21	15	16	9
Social science and education	1,025	48	10	17	11	20	10
Art, culture, recreation and sport	312	25	10 <sup>E</sup>	16	13 <sup>E</sup>	12 <sup>E</sup>	7 <sup>E</sup>
Sales and service	3,624	28	13	16	12	7	4
Trades, transport and equipment operators	1,839	26	24	16	16	6	5
Unique to primary industries	378	24	20	10 <sup>E</sup>	12 <sup>E</sup>	7 <sup>E</sup>	F
Unique to processing, manufacturing and utilities	1,202	24	17	15	18	8	5

Source: General Social Survey, 2000

Note: Percentages will not add due to multiple responses.

part of a team. Even in jobs not requiring teamwork, relationships with co-workers, supervisors or clients can be stressful. Even though some occupations lend themselves to teamwork, the likelihood of feeling stressed at work as a result of poor interpersonal relationships did not vary significantly over most of the occupations examined. Occupations related to primary industry and health were the only exceptions. While 16% of employees overall considered poor interpersonal relations at work to be a source of stress, only about 10% of primary workers did so. At the other end of the spectrum were workers in health occupations with more than 20%.

### Age, sex and stress

Age or sex can influence the type of workplace stress an individual experiences. For example, young workers just entering the labour market may not feel the same pressures as mid-career workers. Similarly, stress triggers may differ for older workers, for men, or for women.

The advent of new technologies has eased communication and enabled firms to grow and evolve. However, for some employees, learning new technology can be stressful. Many young people have grown up with computers at home and at school and are comfortable with them. However, some older workers

may find the new technology intimidating. About 16% of workers 45 and over felt that having to learn computer skills was a source of stress, compared with only 8% of those aged 15 to 24 (Table 3).

While learning computer skills may not be stressful to young workers, other things are. For example, 22% of young men felt that accident or injury was a source of stress in their work environment compared with about 15% of older men. Perhaps the explanation lies in the types of jobs held by young men or their relative inexperience.

Conversely, young employees were significantly less likely than their older counterparts to cite too many hours or too many demands as a source of stress in their work environment (25% versus 37%). This is not surprising given that these individuals are new entrants, often work only part time, and are not as likely to have the often conflicting demands of work and family.

Triggers of workplace stress also differ somewhat between men and women. While men and women had a similar likelihood of feeling stress because of poor interpersonal relationships, threat of job loss, or having to learn computer skills, the likelihood of citing other triggers varied. Women between 45 and 64, regardless of family structure, were significantly more likely than men the same age to feel workplace stress



**Table 3: Sources of workplace stress by age and sex**

	Total	Too many demands/ hours	Risk of accident/ injury	Poor interpersonal relations	Threat of layoff/ job loss	Having to learn computer skills	Other
	'000			%			
<b>Total all ages</b>	<b>14,014</b>	<b>34</b>	<b>13</b>	<b>16</b>	<b>14</b>	<b>11</b>	<b>6</b>
15 to 24	389	25	18	16	17	8 <sup>E</sup>	F
Men	265	25	22	16	17	10 <sup>E</sup>	F
Women	124	25	F	18 <sup>E</sup>	17 <sup>E</sup>	F	F
25 to 34	2,062	37	15	17	15	10	5
Men	1,218	37	17	17	16	10	6
Women	844	38	12	18	14	10	4 <sup>E</sup>
35 to 44	2,818	37	12	16	15	12	6
Men	1,506	36	15	15	16	11	6
Women	1,312	39	9	17	14	13	6
45 to 54	2,072	38	13	15	16	15	6
Men	1,029	35	15	16	16	15	5
Women	1,044	41	11	15	16	16	7
55 to 64	813	34	12	13	12	16	6
Men	330	25	12	10 <sup>E</sup>	9 <sup>E</sup>	11 <sup>E</sup>	6 <sup>E</sup>
Women	483	40	12	15	14	18	6 <sup>E</sup>

Source: General Social Survey, 2000

Note: Percentages will not add due to multiple responses.

as a result of too many demands or hours. At virtually all ages, men were more likely to cite fear of accident or injury.

### Regression analysis

Logistic regression was used to examine the relationship between two common workplace stressors and a number of explanatory variables (Table 4).<sup>5</sup> With few exceptions, both models confirmed that most variables had a significant influence on the likelihood of feeling stress in the workplace as a result of too many hours or demands, or fear of accident or injury, when all other variables were held constant. Not surprisingly, work status, occupation, and work schedule were strong predictors of stress in the workplace. The odds of feeling stress as a result of fear of accident or injury were 7.2 times higher for employees working in health occupations than for those in management, business, finance and science occupations.

Other important contributors to these two stressors were age and sex. For example, men were significantly less likely than women to feel stress in their work environment as a result of too many demands or hours, but they were 1.3 times more likely to feel stress from fear of accident or injury.

Conversely, analyses indicate that married employees or those with children under 15 in the household were not significantly more likely to feel stress in the workplace because of too many demands or hours.

### Summary

The effects of stress are well documented. While occasional bouts of stress are not likely to have lasting adverse health effects, regular or constant stress is more likely to have negative health implications.

The most common source of workplace stress cited by working Canadians in 1994 and 2000 was too much time at work or too many demands. However, given the economic situation of the early 1990s, it is not surprising that almost one-quarter of workers in 1994 said that fear of layoff or job loss was a source of workplace stress.

Workplace stress triggers varied depending on work structure and characteristics. For example, both the self-employed and full-time workers were significantly more likely to feel the time crunch of too many demands or hours at work, compared with their employee and part-time counterparts. Stress triggers

Table 4: Odds of feeling stress in the workplace

	Odds ratio <sup>†</sup>	
	Too many demands/hours	Risk of accident or injury
<b>Sex</b>		
Men	0.860 **	1.296 ***
Women	1.0	1.0
<b>Age</b>		
Under 35	1.426 ***	1.288 **
35 to 54	1.628 ***	1.225 *
55 and over	1.0	1.0
<b>Children 14 and under in household</b>		
Yes	1.085	0.975
No	1.0	1.0
<b>Marital status</b>		
Married or common-law	1.007	0.932
Divorced, widowed, separated	0.983	0.962
Single, never married	1.0	1.0
<b>Work status</b>		
Part-time	0.445 ***	0.642 ***
Full-time	1.0	1.0
<b>Work schedule</b>		
Regular daytime	0.903 *	0.579 ***
Shift work	1.0	1.0
<b>Occupation</b>		
Management, business, finance and sciences	1.0	1.0
Health-related occupations	1.612 ***	7.150 ***
Social sciences, culture and sales	0.866 **	2.032 ***
Trades, primary, processing and manufacturing	0.507 ***	3.453 ***

Source: General Social Survey, 2000

<sup>†</sup> Odds ratios are generated from a logistic regression. They indicate whether certain levels of an explanatory variable, compared with the reference category, increase or decrease the odds of a certain event occurring while controlling for all other explanatory variables. Separate models were used for feeling stress in the work environment as a result of too many demands or too many hours or as a result of fear of accident or injury. Statistically significant at: \* .05 \*\* .01 \*\*\* .001

also differed according to work schedule. One-quarter of rotating shift workers worried about the risk of accident or injury on the job compared with about 10% of daytime workers.

Occupation also played a key role. Other factors constant, employees in health occupations were over seven times more likely than those in management, business, finance or science occupations to cite fear of accident or injury as a source of

stress. Stress triggers also varied by demographic characteristics such as age and sex. In general, women felt stressed about too many hours or demands at work, while men worried more about accident or injury on the job. Finally, older workers worried much more than younger workers about learning computer skills.

In an attempt to address the human and financial costs associated with stress, many employers have imple-

mented employee assistance programs. The 1999 Workplace and Employee survey found that 26% of private-sector employees had access to such programs.

## Perspectives

### Notes

1 As cited on the National Institute for Occupational Safety and Health Web site: [www.cdc.gov/niosh/stresswk.html](http://www.cdc.gov/niosh/stresswk.html) (accessed May 13, 2002).

2 According to the Labour Force Survey, between 1990 and 1997, self-employment accounted for over 75% of total job growth.

3 Individuals who reported that they had worked *sometime* in the last 12 months.

4 Business, finance, administrative; health; natural and applied sciences; and education occupations.

5 Certain variables were excluded and other categories, such as occupation, were re-grouped into larger groups for the regression analyses.

6 The 2001 Canadian Mental Health Survey was conducted by COMPAS on behalf of the Canadian Mental Health Association.

7 For a list of types of employees surveyed, see *Data sources and definitions*.

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## Dealing with workplace stress

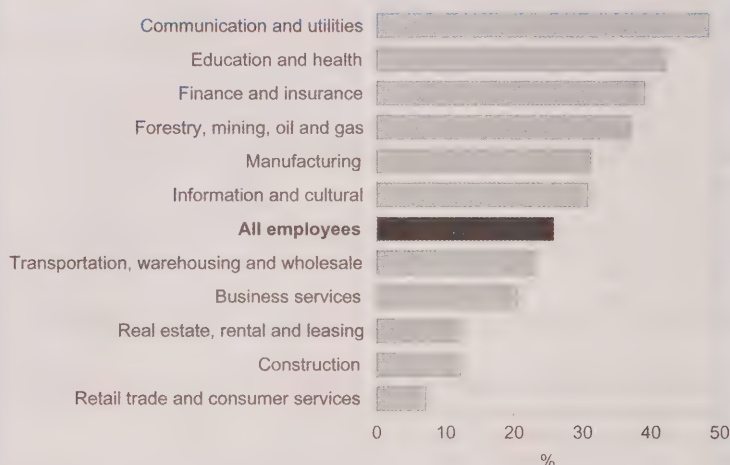
Stress in the workplace is common. The 2001 Canadian Mental Health Survey<sup>6</sup> found that 51% of respondents felt that work was a major or moderate source. But not all stress is negative; research has shown that individuals function best in a work setting that places reasonable demands on them. One example of positive stress might be preparing for a job interview. While the preparation may be stressful, getting the resulting promotion is perceived for the most part as a positive event. And many Canadians view stress in a positive light. Indeed, about 4 in 10 respondents in the Canadian Mental Health Survey said that the amount of workplace stress they experienced had a positive effect on their performance, while about 3 in 10 felt it had a negative effect.

As workplace stress triggers vary, so do strategies for dealing with them. Good job design is important. The Canadian Centre for Occupational Health and Safety believes that a job should be reasonably demanding, with at least a minimum of variety in job tasks, that employees should be able to learn on the job, and that the job should allow some decision making.

Because stress has become such an important issue, many employers have instituted programs and policies to reduce stress or help employees deal with stress before it becomes a problem. Indeed, the 1999 Workplace and Employee Survey found that slightly more than one-quarter (26%) of employees<sup>7</sup> had access to some type of employee assistance plan. These rates were even higher in certain industries. For example, 49% of employees in communication and

utilities industries reported having access to an employee assistance program (see Chart). At the lower end, the figure was about 7% for employees in the retail and services industries. However, these programs have recently come under fire for dealing only with the symptoms of workplace stress and not taking the extra step to address the causes (Rosolen 2002). For example, many employers provide programs to deal with the stress of working long hours, but do little to bring about change to lighten the workload.

### More employees in the communication and utilities industries had access to employee assistance programs.



Source: Workplace and Employee Survey, 1999

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# Unionization and the grievance system

Ernest B. Akyeampong

**W**ORKERS SPEND A SIGNIFICANT proportion of their lives in the workplace. During this time, disagreements with supervisors are bound to arise. As in other areas of life, many of these conflicts can be resolved at the personal level. However, since the employer-employee relationship is not one of equal power, employees may benefit from access to dispute settlement procedures. These put employees on a more equal footing with their employer, allowing them to feel more at ease and in control. The workplace procedures that have been established to protect employees against exploitation, abuse or unfair treatment by employers are generally referred to as the grievance system, or dispute- or complaint-resolution system (see *The grievance system*).

Not much is known about how pervasive the system is in Canada. Similarly, usage rates, resolution methods, and satisfactory resolution rates are hard to come by. Fortunately, the Workplace and Employee Survey (WES) (see *Data source*) not only permits such analyses, but also provides useful insights into whether unionized workers have the advantage in accessing and using a grievance system. The article also briefly examines worker satisfaction ratings with the job overall and with pay and benefits in particular, and if having a grievance system at the workplace affects these ratings.

## Access higher for the unionized

In 1999, roughly one half (49% or 5.3 million) of the 10.8 million employees covered by WES reported that they had access to a grievance system at their workplace (Table 1). Approximately 3 million (28%) of these employees stated that they belonged to a union or were covered by a collective agreement.<sup>2</sup> As expected, the accessibility rate was much higher

among unionized workers; overall, it stood at 85%, almost two and a half times the rate for non-unionized workers (35%) (Chart A).<sup>3</sup> The union advantage persisted for both sexes; across age, occupation and industry groupings; and across regions.

Overall, the highest accessibility rates were recorded for workers in professional occupations (66%) and for those in heavily unionized industries such as primary product manufacturing (67%), communication and other utilities (74%), and education and health services (71%). In contrast, the lowest rates were found among less unionized groups such as youth (less than 25 years, 32%), marketing and salespersons (34%), and workers in construction and in real estate, rental and leasing (32% each).

Only Alberta, the least unionized province, had an accessibility rate (45%) lower than the overall national average; the rate for each of the other five regions was identical to the national average.

**Chart A: About 9 in 10 unionized workers had access to a grievance system, compared with roughly 4 in 10 non-unionized workers.**



Source: Workplace and Employee Survey, 1999

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**Table 1: Access to grievance system**

	All employees		Unionized		Non-unionized	
	'000	%	'000	%	'000	%
<b>Both sexes</b>	<b>5,259</b>	<b>48.8</b>	<b>2,559</b>	<b>85.1</b>	<b>2,700</b>	<b>34.8</b>
Men	2,583	50.0	1,287	84.9	1,296	35.5
Women	2,676	47.7	1,272	85.3	1,404	34.1
<b>Age</b>						
Less than 25	347	32.5	110	64.3	237	26.4
25 to 44	2,939	49.0	1,377	86.3	1,562	35.5
45 or older	1,972	53.1	1,072	86.4	901	36.5
<b>Occupation</b>						
Managers	759	46.7	78	78.6	681	44.6
Professionals	1,144	65.7	673	92.1	471	46.7
Technical/trades	1,930	45.9	1,066	82.2	865	29.7
Marketing/sales	303	33.5	72	74.7	231	28.6
Clerical/administrative	696	46.2	339	83.5	357	32.4
Production workers with no trade/certification	427	53.6	331	87.5	96	22.9
<b>Industry</b>						
Forestry, mining, oil and gas extraction	89	47.8	41	86.3	47	34.4
Labour-intensive tertiary manufacturing	225	45.2	132	80.1	93	27.9
Primary product manufacturing	267	67.0	169	88.0	99	47.7
Secondary product manufacturing	161	43.9	59	78.7	102	35.0
Capital-intensive tertiary manufacturing	335	57.3	157	94.6	178	42.4
Construction	136	32.4	60	57.5	77	24.2
Transportation, warehousing and wholesale trade	424	38.3	125	85.1	300	31.1
Communication and other utilities	181	74.3	109	86.5	72	61.3
Retail trade and consumer services	905	34.9	235	69.3	670	29.7
Finance and insurance	265	52.3	52	82.0	213	48.0
Real estate, rental, and leasing	59	32.5	F	70.5	35	23.5
Business services	352	35.2	64	77.6	288	31.4
Educational and health services	1,658	70.8	1,213	90.9	445	44.2
Information and cultural industries	202	57.7	119	90.3	83	38.0
<b>Region</b>						
Atlantic	351	49.4	174	89.7	177	34.2
Quebec	1,265	49.2	808	83.0	457	28.6
Ontario	2,115	49.2	811	87.3	1,305	38.8
Manitoba and Saskatchewan	362	49.1	194	84.2	168	33.1
Alberta	500	45.1	184	88.9	316	35.1
British Columbia	666	49.2	389	82.0	276	31.4

Source: *Workplace and Employee Survey, 1999***The grievance system**

A grievance can be defined as a complaint, often in writing, requesting redress by management of a perceived act of injustice. The complaint can be filed directly by the aggrieved worker(s) or by a union on their behalf. The injustice could be the result of a violation of the term(s) of a collective agreement, a federal or provincial law, or simply an employee's rights as spelled out in corporate policies or practices. The most common grievances involve pay (including overtime and acting pay); special leave; notices of suspension, dismissal or reprimand; discrimination and harassment; and performance appraisals.

Usually, grievance procedures clearly spell out the steps to be followed for resolution. Typically, the first is a verbal or written complaint to the immediate supervisor. Failing resolution at this level, the complaint proceeds to a management committee. Most cases involving non-unionized workers do not go beyond this level; however, some cases, especially those involving unionized workers, can be taken further—a labour-management committee and even outside arbitration. Deadlines are usually specified for each level. The final authority for settlement is laid out in most corporate policies or collective agreements.<sup>1</sup>

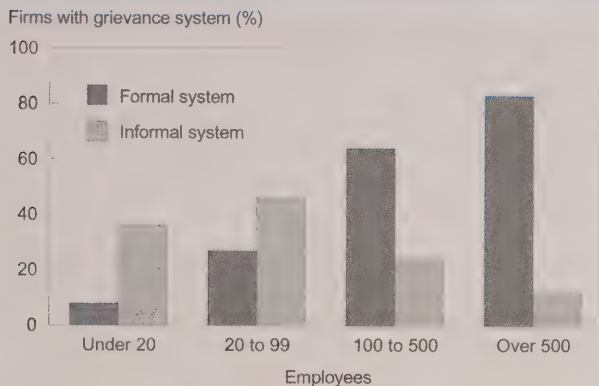
**Access more common in larger firms**

About 48% of the 718,000 establishments covered by WES stated that they had a grievance system. The likelihood of having a system at the workplace increased with establishment size and was also positively correlated with the presence of a union (Akyeampong 2000).<sup>4</sup> For example, 44% of small firms (less than 20 employees) reported having a grievance system,



compared with 95% of large firms (over 500); the latter are also more frequently unionized (Chart B). Furthermore, the larger the firm size, the greater the likelihood of a formal grievance system—the term ‘formal’ usually entailing a written grievance with detailed step-by-step resolution procedures. In contrast, the smaller the firm size, the greater the likelihood of an informal system, usually entailing a verbal or written grievance and often settled by a supervisor or manager.

**Chart B: The likelihood of a grievance system increases with establishment size.**



Source: Workplace and Employee Survey, 1999

### Overall usage rate similar for unionized and non-unionized workers

Approximately 11% (570,000) of the over five million employees with access to a grievance system filed a grievance in 1999 (Table 2). Irrespective of union membership, the highest usage rates were recorded for youth (18%), production workers with no trade or certification (20%), employees in labour-intensive tertiary manufacturing (16%), and workers in Alberta (14%). The lowest rates were for managers and professionals (7% each), and finance and insurance (6%).

Clearly, access does not necessarily go hand in hand with use of the system. For example, despite unionized workers' greater access to and perceived preoccupation with the grievance system, their usage rate as

### Data source

The **Workplace and Employee Survey (WES)** is a joint program of Statistics Canada and Human Resources Development Canada. The goal of WES is to examine the way employers and their employees respond to the changing competitive and technological environment. Survey results provide insight into the relationship between a firm's employment practices and its performance, as well as in-depth information on the effects of technology, training and human resources practices. The survey is unique in that employers and employees are linked at the microdata level—employees are selected from the sampled workplaces. Thus, information from both employers and employees is available in a single framework. The longitudinal aspect of WES allows researchers to study both employer and employee outcomes over time.

The 1999 sample consisted of 6,400 establishments and 24,000 employees. Public administration, agriculture, fishing and trapping, and private households are excluded from WES.

a group (11.2%) was fairly similar to that of non-unionized workers (10.5%). Although the reason for the similar rates is not immediately clear, easier access and therefore greater potential use of the system by unionized workers may contribute to improved human-relations practices on the part of employers, resulting in fewer grievances being filed.

Furthermore, the union versus non-union grievance usage pattern does not appear clear-cut. For some groups such as youth, production workers with no trade or certification, and workers in Alberta, the usage rate for non-unionized workers was much higher. For other groups such as workers in forestry, mining, and oil and gas extraction, and in British Columbia, the reverse was true. Interestingly, youth and workers in Alberta had the lowest accessibility rates and yet recorded the highest usage rates.

### Formal versus informal settlements

In general, almost half of all grievances do not go beyond the supervisor or manager level. Of the 570,000 filed in 1999, 46% were informally addressed at this level (Table 3). About 16% were addressed through a management committee, 22% through a labour-management committee, and 9% by an outside arbitrator. Other mechanisms were used in 20% of cases.



**Table 2: Grievance system use\***

	All employees		Unionized		Non-unionized	
	'000	%	'000	%	'000	%
<b>Both sexes</b>	<b>570</b>	<b>10.8</b>	<b>286</b>	<b>11.2</b>	<b>284</b>	<b>10.5</b>
Men	279	10.8	147	11.4	133	10.2
Women	290	10.8	139	10.9	151	10.8
<b>Age</b>						
Less than 25	61	17.6	9	8.1	52	22.1
25 to 44	349	11.9	180	13.1	170	10.8
45 or older	159	8.1	97	9.0	62	6.9
<b>Occupation</b>						
Managers	51	6.7	F	F	50	7.3
Professionals	81	7.1	41	6.1	40	8.5
Technical/trades	221	11.4	134	12.6	87	10.1
Marketing/sales	50	16.5	9 <sup>E</sup>	11.9	41 <sup>E</sup>	18.0
Clerical/administrative	82	11.8	52	15.2	30	8.5
Production workers with no trade/certification	85	19.9	49 <sup>E</sup>	14.9	35	37.1
<b>Industry</b>						
Forestry, mining, oil and gas extraction	12	13.0	8	20.1	3 <sup>E</sup>	6.8
Labour-intensive tertiary manufacturing	36	15.9	22 <sup>E</sup>	16.6	14	14.9
Primary product manufacturing	37	13.9	27	16.1	10	10.2
Secondary product manufacturing	16	10.1	8 <sup>E</sup>	14.2	F	F
Capital-intensive tertiary manufacturing	F	F	F	F	11 <sup>E</sup>	6.0
Construction	17	12.3	4 <sup>E</sup>	7.4 <sup>E</sup>	12 <sup>E</sup>	16.2 <sup>E</sup>
Transportation, warehousing and wholesale trade	57	13.4	22	18.0	35	11.5
Communication and other utilities	24	13.0	16	14.9	7	10.1
Retail trade and consumer services	106	11.7	20 <sup>E</sup>	8.6 <sup>E</sup>	86	12.8
Finance and insurance	16	6.2	7	12.7	F	F
Real estate, rental, leasing operations	7 <sup>E</sup>	11.3 <sup>E</sup>	F	F	F	F
Business services	41	11.8	5 <sup>E</sup>	8.4 <sup>E</sup>	36 <sup>E</sup>	12.5
Educational and health services	143	8.6	104	8.6	39	8.7
Information and cultural industries	18	8.7 <sup>E</sup>	9	7.5	9 <sup>E</sup>	10.5 <sup>E</sup>
<b>Region</b>						
Atlantic	35	9.9	15	8.7	20	11.1
Quebec	114	9.0	81	10.0	33	7.3
Ontario	243	11.5	105	13.0	138	10.6
Manitoba and Saskatchewan	43	11.8	25	12.8	18	10.7
Alberta	69	13.9	16	8.7	53	16.9
British Columbia	65	9.8	44	11.3	22	7.8

Source: Workplace and Employee Survey, 1999

\* Users as a percentage of those with access to a grievance system.

The settlement method used depends partly on the grievance procedures in place and partly on the substance of the grievance. Stark differences were apparent in the address mechanisms used by unionized and non-unionized workers. The more informal resolution routes (mainly the manager/supervisor or a management committee) were used most frequently by non-unionized workers; indeed, for many non-unionized workplaces, recourse was limited to these two levels. On the other hand, the more formal settlement routes (labour-management committee or arbitration) were the norm for unionized employees. Thus, 8 in 10 non-unionized workers in 1999 saw their grievance informally addressed by a supervisor/manager or a management committee, compared with 5 in 10 unionized workers. In contrast, just over 5 in 10 unionized workers had their grievance addressed through a labour-management committee or outside arbitrator, compared with only 1 in 10 non-unionized employees, most of them in larger establishments.

### Non-unionized employees more likely to note improved post-grievance situations

Approximately 61% of the employees who filed a grievance in 1999 perceived some improvement in their post-grievance situation (Table 4). Overall, men were more likely than women to indicate an improvement (70% versus 53%). Among the major occupations, managers ranked first in this regard (84%), possibly because managers invariably play a major role in the resolution process. Marketing and

**Table 3: Grievance resolution methods**

Method used	All employees	Unionized	Non-unionized
	%		
Informal, by manager/supervisor	45.9	29.7	62.2
Management committee	15.5	15.3	15.8
Labour-management committee	21.9	36.1	7.6
Outside arbitrator	9.3	15.3 <sup>E</sup>	3.2
Other	20.4	22.5	18.4

Source: Workplace and Employee Survey, 1999

Note: Percentages add up to more than 100 due to use of more than one mechanism for some settlements.

sales recorded the least (39%). A much higher-than-average percentage of workers in construction (84%) indicated an improvement, as did workers in the Atlantic region (71%).

Despite the support received from unions during grievances (through shop stewards, for example), fewer unionized workers than non-unionized reported an improvement in their post-grievance situation (54% versus 68%). Possible explanations for this anomaly are not readily available. They may partly derive from differences in the kind of issues being grieved by the two groups—information not available from WES. In other words, the issues being grieved by non-unionized workers may be easier to resolve. It is not possible to ascertain the influence of resolution mechanisms used because not all mechanisms were available to each filer, and also because some filers used more than one mechanism.

### Workers with grievance privileges more satisfied with job, pay and benefits

Overall job satisfaction depends on a variety of factors, including pay and benefits, nature of the job, physical working conditions, relations with the boss and co-workers, job stability, promotional prospects, and work arrangements (for example, shift, contract, seasonal, or on-call work). Similarly, satisfaction with pay depends in part on job demands and skill or educational qualification match. Finally, satisfaction with

job benefits depends on several factors, including their number and type (Akyeampong 2002; Fang and Verma 2002; Marshall 2003).

While job satisfaction has many aspects, one would expect—all else equal—higher satisfaction among workers with grievance privileges. WES does indeed show slightly higher overall job satisfaction for workers with grievance privileges. In 1999, about 91% of these workers stated that they were satisfied or very satisfied with their job overall, compared with 88% of those without such privileges (Table 5). Ratings were identical for the unionized and non-unionized.

Satisfaction with pay and benefits was generally lower than for the overall job. Here also, a slightly higher percentage of workers with access to a grievance system (77%) than those without (72%) stated that they were satisfied or very satisfied with their pay and benefits. Again, unionized and non-unionized employees scarcely differed.

Employers with a grievance system at their workplace were also asked to rate their labour-management relations.<sup>5</sup> About 92% rated these as good, another 8% as fair, and only a handful as poor. The presence of a union appeared to have a slightly negative effect. In workplaces with a grievance system but no union, 92% of employers perceived their labour-management relations to be good compared with just under 88% of employers in workplaces with a union.

### Summary

In 1999, approximately half the 10.8 million employees covered by the Workplace and Employee Survey reported having a grievance system at their workplace. About 85% of unionized workers had access to a grievance system compared with 35% of non-unionized workers. The union advantage persisted across age, sex, occupation, industry and geographical dimensions. The likelihood of having a system increased with establishment size.

About 11% of those with access filed a grievance in 1999. However, access to a grievance system alone does not necessarily translate into use. The usage rate for unionized workers, who have more access, was almost identical to the rate for non-unionized employees. Indeed, some workers with the least access to the system were the most likely to use it, and vice versa.

**Table 4: Successful grievance resolution rates\***

	All employees	Unionized	Non-unionized
		%	
<b>Both sexes</b>	<b>61.1</b>	<b>54.0</b>	<b>68.3</b>
Men	70.0	58.3	82.8
Women	52.6	49.5	55.5
<b>Age</b>			
Less than 25	48.4	70.7	44.6
25 to 44	61.3	51.3	72.0
45 or older	65.6	57.6	78.2
<b>Occupation</b>			
Managers	83.9	F	85.5
Professionals	59.4	41.3	77.8
Technical/trades	62.6	51.8	79.2
Marketing/sales	38.7 <sup>E</sup>	63.6	33.5
Clerical/administrative	65.8	59.6	76.4
Production workers with no trade/certification	54.0	63.8	F
<b>Industry</b>			
Forestry, mining, oil and gas extraction	76.9	78.3	73.4
Labour-intensive tertiary manufacturing	59.6	50.2	74.7
Primary product manufacturing	70.1	64.0	86.4
Secondary product manufacturing	75.5	66.3	85.1
Capital-intensive tertiary manufacturing	68.3	68.8	66.7
Construction	83.5	64.8	90.2
Transportation, warehousing and wholesale trade	68.7	51.4	80.0
Communication and other utilities	65.9	63.1	72.4
Retail trade and consumer services	57.7	60.1	57.1
Finance and insurance	53.3	F	66.4
Real estate, rental, leasing operations	47.8 <sup>E</sup>	F	F
Business services	64.7	49.2	66.9
Educational and health services	52.6	46.3	69.7
Information and cultural industries	47.5 <sup>E</sup>	35.1 <sup>E</sup>	60.1 <sup>E</sup>
<b>Region</b>			
Atlantic	71.0	56.3	82.3
Quebec	54.6	53.2	58.0
Ontario	63.7	61.5	65.4
Manitoba and Saskatchewan	58.4	47.3	73.6
Alberta	67.1	55.4	70.7
British Columbia	53.1	40.1	79.7

Source: Workplace and Employee Survey, 1999

\* Percentage of filing persons indicating a post-grievance improvement in their situation.

While settlements through managers/supervisors and management committees appeared to be the norm for non-unionized workers, unionized workers were more likely to use a formal settlement mechanism such as a labour-management committee or an outside arbitrator.

About 6 in 10 persons filing a grievance in 1999 perceived an improvement in their post-grievance situation. The ratio was higher for non-unionized employees—7 in 10, compared with 5 in 10 unionized workers. Factors accounting for the disappearance of a union advantage in this situation, despite union workers' greater access to the system, are not immediately clear from available WES data, but differences in issues being grieved may have played a role.

Worker satisfaction with the overall job was generally higher than for pay and benefits. The presence of a grievance system at the workplace appears to have had a slight positive effect on satisfaction ratings. About 91% of all workers with grievance privileges indicated that they were satisfied or very satisfied with the overall job, and 77% said the same with respect to pay and benefits. For those without access to a grievance system, the corresponding percentages were slightly lower, at 88% and 72%. The ratings for unionized and non-unionized workers were similar, with or without a grievance system at the workplace.



**Table 5: Access to grievance system and job satisfaction**

	All employees	Accessible to system	No access to system
	%		
<b>Overall job satisfaction</b>			
Very satisfied	34.8	37.9	31.9
Satisfied	54.5	52.8	56.1
Dissatisfied	8.7	7.6	9.7
Very dissatisfied	1.7	1.4	2.0
No opinion	0.3	0.3 <sup>E</sup>	0.3
<b>Satisfaction with pay and benefits</b>			
Very satisfied	19.1	21.5	16.8
Satisfied	55.1	55.4	54.8
Dissatisfied	21.5	19.8	23.1
Very dissatisfied	3.8	2.9	4.7
No opinion	0.5	0.3	0.7

Source: Workplace and Employee Survey, 1999

### Perspectives

#### ■ Notes

1 Approximately 84% of employees with a workplace grievance system stated that the final authority for settlement rested with management. Another 5% cited a labour-management committee, and the remaining 11% an outside arbitrator.

2 The WES union coverage rate is slightly lower than the rate in the overall economy. According to the Labour Force Survey, inclusion of employees in agriculture and the heavily unionized public administration industry raised the overall national coverage rate in 1999 to 32% (Akyeampong 2000).

3 The high accessibility rate for unionized workers is not surprising since most collective agreements contain grievance provisions.

4 The Labour Force Survey shows that in 1999, the union rate rose by firm size, increasing from 14% for firms with less than 20 employees to 58% for firms with more than 500 employees (Akyeampong 2000).

5 Since this question was not administered to those without a grievance system, it is impossible to ascertain the likely effect, or its direction, of having a system in place.

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# Who pays for domestic help?

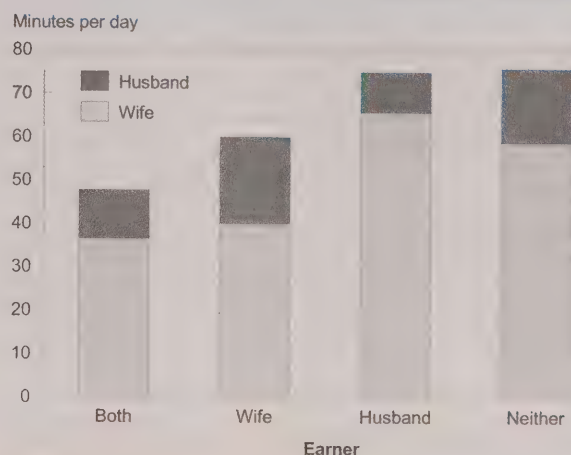
Boris Palameta

CANADIANS HAVE BECOME increasingly 'time poor.' Time allocated by families to paid work has increased, leaving less time for unpaid work such as necessary household chores. Time pressures are especially onerous for women, largely because men's share of unpaid housework has not increased at the same rate as women's share of paid work. For example, in 1993, in most dual-earner families with both spouses working full time, the wife was solely or largely responsible for daily housework such as meal preparation, meal clean-up, cleaning, and laundry (Marshall 1993). The most recent available time-use data showed a similar pattern (Chart A).

One way to relieve time pressure is to purchase home services such as domestic help. Households are often assumed to base their spending decisions on the combined income of all members—the income-pooling hypothesis. This model predicts that each additional dollar of a man's income should be spent the same way as each additional dollar of a woman's income. Yet several studies have shown that they are spent differently. In American dual-earner households, wives' wages were significant predictors of spending on home services while husbands' wages were not (Soberon-Ferrer and Dardis 1991). In a test of the income-pooling hypothesis for 14 different expenditure categories, expenditures falling within the traditional realm of 'woman's work,' such as child care and household food, were more influenced by the wife's than by the husband's income (Phipps and Burton 1998).

This article looks at expenditures on home services in 2000, the most recent year for which microdata are available (see *Data source and definitions*). It focuses on husband-wife households, for which issues related to division of unpaid labour are likely to be important. Characteristics of households that did and did not

**Chart A: Wives spend more time than husbands on housecleaning, in all types of households.**



Source: General Social Survey, 1998

purchase home services are compared. Because women may gain more time by purchasing home services, women's share of household income may be especially important. Also, the need for time pressure relief may make dual-earner households more likely purchasers of home services than single-earner or no-earner households. Other factors considered include household composition, size of dwelling, and presence of a secondary residence such as a vacation home. Households with more members (especially very young or very old) may be more likely to pay for home services, especially if they have more rooms to clean or more than one residence.

## High-income households more likely to pay for home services

A little more than 1 in 10 husband-wife households purchased home services in 2000, spending an average of \$1,100. Purchasing households had a much higher

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## Data source and definitions

The **Survey of Household Spending (SHS)**, conducted annually since 1997, collects data on expenditures of private households. The household member mainly responsible for financial maintenance acts as the reference person. This study was restricted to husband-wife households surveyed in 2000.

In the SHS, **home services** are defined as "domestic help, e.g., housekeepers, cleaners, paid companions and house-sitters." Child-care services and outdoor services such as gardening and snow removal are excluded.

**Wife's share of household income** is her total income before taxes divided by the total household income before taxes. The following conventions were applied in order to prevent the wife's share of household income from being less than 0% or more than 100%. Her share was set at 0% if both the household income and her income were zero or less, or if the household income was positive but her income was negative. The share was set at 100% if her income was positive but the household income was negative, or if the household income was positive, but her income was higher than the household income.

**Dual-earner households** are those in which both spouses work at least part time. In the SHS, part-time workers are those whose total weeks worked in a year do not exceed 48, or those who worked 49 or more weeks but less than 25 full time.

**Logistic regression** estimates the probability that a particular outcome—in this study purchasing home services—will occur as a function of several explanatory variables. The association between each explanatory variable and the probability of purchase is examined while holding all other variables constant. In other words, the probability of purchase can be compared between households that are identical in every respect but one. For instance, a comparison can be made between dual-earner households that have the same income, same number of children, etc., but differ in terms of the wife's share of household income. An F-statistic is computed for each explanatory variable to determine whether a change in that variable is associated with a significant change in the probability of purchase when all other variables are held constant.

To account for the complex survey design, the analysis was conducted using WesVar version 4.2. Replicate weights were created using the jack-knife method. Interaction effects between household income, wife's share of income, and wife's age were found to be non-significant and were dropped from the analysis. Only main effects are shown.

median income than non-purchasing households (Table). Other distinguishing features of purchasing households included an older wife, a larger dwelling (where size was defined by the number of rooms), and a wife with a larger share of household income. Purchasing households were also more likely to have dual-earner spouses, a senior other than the husband or wife in the home, or a vacation home.

However, some of the variables may be interrelated. Examining each one individually without taking the others into account may lead to misleading conclusions. To make informative statements about how any one variable is associated with the decision to purchase home services, the other variables must be held constant. This is done by using a technique called logistic regression (see *Data source and definitions*).

**Table: Husband-wife households purchasing home services**

	Total	Purchased	Did not purchase
Households ('000)	6,820.3	713.1	6,107.3
(%)	100.0	10.4	89.6
<b>Characteristics</b>			
Median household income, before taxes (\$)	60,500	86,900	58,600
Wife's share of household income (%)	31.3	34.1	31.0
Wife's age	46.8	49.3	46.5
Number of children under 16	0.83	0.81	0.83
At least one child under 5 at home (%)	20.9	20.9	21.0
At least one senior (65+) other than husband or wife at home (%)	2.5	3.5	2.3
Own a vacation home (%)	9.9	13.8	9.5
Number of rooms in dwelling	6.8	7.7	6.7
<b>Employment status</b>			
	%		
Dual-earner spouses	60.4	65.3	59.8
Wife sole earner	5.3	4.5	5.4
Husband sole earner	16.8	12.1	17.3
Neither spouse earning	17.5	18.0	17.5

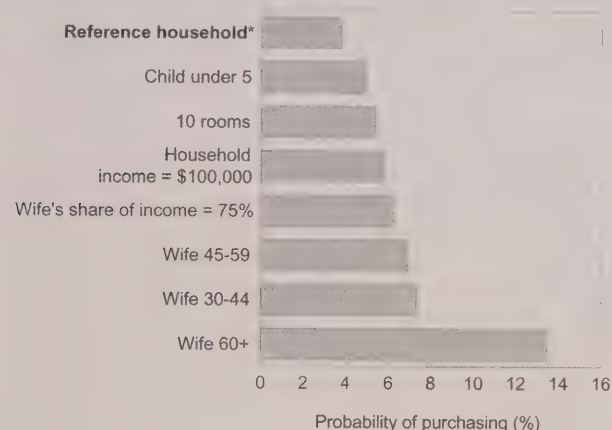
Source: Survey of Household Spending, 2000

### Wife's share of household income is important, dual-earner status is not

To illustrate the influence of different variables on the purchasing decision, a reference household with a specific set of characteristics was selected. Each characteristic was then changed while holding the others constant (Chart B).

As hypothesized, the wife's share of household income is an important factor in the decision to purchase home services. If the wife's share of income is set at 75% instead of 25% with all other factors held constant, the likelihood of purchasing home services doubles.

**Chart B: Probability of purchasing home services increases most with the wife's age.**



Source: Survey of Household Spending, 2000

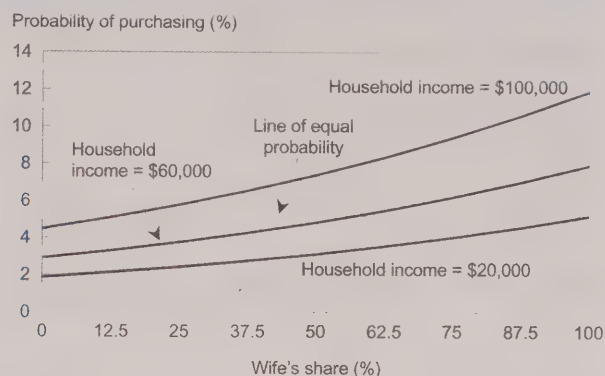
\* Dual earners (wife under 30) living in a 7-room house—no children, seniors, or vacation home. Household income \$60,000—wife's share 25%.

Furthermore, households with a relatively small income, most of it the wife's, are sometimes more likely to pay for home services than households with a larger income, most of it the husband's (Chart C). For example, purchases are more likely if the wife makes 100% of a \$20,000 household income than if she makes less than 57% of a \$60,000 household income, or less than 15% of a \$100,000 household income.

Another important factor in the purchasing decision is the wife's age. Households in which the wife was aged 30 to 59 are almost twice as likely to purchase home

services as households with a wife under 30. Those in which the wife was 60 or over are four times as likely. Perhaps older women are less willing or able to do housework. And in younger households, husbands may be more likely to help with household chores, thus reducing the need for home services.

**Chart C: Probability of purchasing home services increases with both household income and the wife's share of it.**



Source: Survey of Household Spending, 2000

Although the number of children in a household does not affect the decision to purchase services, the presence of at least one child under 5 increases the likelihood. This result is not surprising, since households with young children usually have more to clean up, and less time to do it.

Another significant variable is the number of rooms in the dwelling. When everything else is held constant, the probability of purchasing home services increases with the number of rooms to be cleaned.

Surprisingly, dual-earner households are no more likely than male-earner households to purchase home services, once other factors such as household income are held constant. The presence of seniors in the household and owning a vacation home are also not found to be significant.

### Summary

Buying domestic help is not just a matter of having sufficient household income. It also matters whose income it is. Consider two husband-wife households,

identical in every respect except that the husband makes 75% of the income in one household while the wife makes 75% in the other. The analysis presented here predicts that the second household will be roughly twice as likely to pay for home services.

The likelihood of purchasing home services also increases with the wife's age. Everything else being equal, women 60 and over are almost four times as likely to pay for domestic help as women under 30.

Although dual-earner status is not associated with an increased likelihood of purchasing home services, other time-related factors such as young children and a large dwelling are. Home services can be thought of as an item purchased largely at the wife's discretion if household tasks are especially time-consuming and household income is sufficient. Put more simply, domestic help seems to be a means by which husbands and wives—but especially wives—can buy time.

## ■ References

Marshall, Katherine. 1993. "Employed parents and the division of housework." *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 5, no. 3 (Autumn): 23-30.

Phipps, Shelley and Peter Burton. 1998. "What's mine is yours? The influence of male and female incomes on patterns of household expenditure." *Economica* 65, no. 260 (November): 599-613.

Soberon-Ferrer, Horacio and Rachel Dardis. 1991. "Determinants of household expenditures for services." *Journal of Consumer Research* 17, no. 4 (March): 385-397.



# Productivity and prosperity in the information age

*Kaïs Dachraoui, Tarek M. Harchaoui and Faouzi Tarkhani*

IN THE LATE 1990s, the Canadian economy put on a remarkable performance. After 1995, economic growth was more rapid than in the 1981-1988 expansionary period (3.8% compared with 3.1%).<sup>1</sup> Both unemployment and inflation remained unusually low. Previously, low levels of unemployment usually meant sharply rising inflation. Yet, despite an unemployment rate in 1999 and 2000 of only about 7%, core inflation remained in check at 2.3%. Federal budget deficits vanished, as the structural budget balance moved steadily from deficit to surplus. And Canada's productivity performance compared favourably with that of the United States.

Productivity is not only the key to the performance of firms and industries, it is fundamental to living standards. During the late 1990s, Canada experienced a transformation in its productivity record. The causes and industry origins of the surge are not well known. Recent Statistics Canada studies provide some useful insights, not only reaffirming the role of information technology, but also revealing the mechanisms by which it has operated. This article draws heavily on that research to describe productivity trends, the role of different industries and information technology in the recent acceleration, and the implications for Canada's prosperity.

## Key features of Canada's business sector productivity performance

Canada's productivity surge in the 1990s has been highlighted in a number of previous studies (Crawford 2002; OECD 2001). A few key features are summarized here.

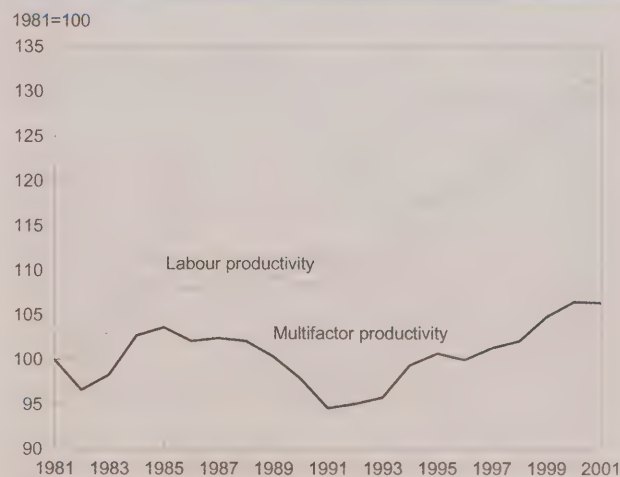
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Two productivity measures for the business sector are presented: labour productivity—the amount of output produced per unit of labour used; and multifactor productivity—the amount of output produced per unit of combined input of labour and capital (buildings, machinery, equipment). Improvements in productivity imply increased efficiency—that is, labour and capital resources are used in ways that add more value.

Canada's productivity performance over the 1981-2001 period went through three phases: strong growth from 1981 to the mid-1980s, a pronounced deceleration to the early 1990s, then a renewed surge (Chart A).

The 1990s surge peaked in 2000. Productivity declined slightly in 2001, as the business sector recorded a 0.9% increase in output and a 1% increase in combined labour and capital input. The 1990s presented the longest period of continuous growth in multifactor productivity during the last 20 years.

**Chart A: Business sector productivity picked up sharply after 1995.**

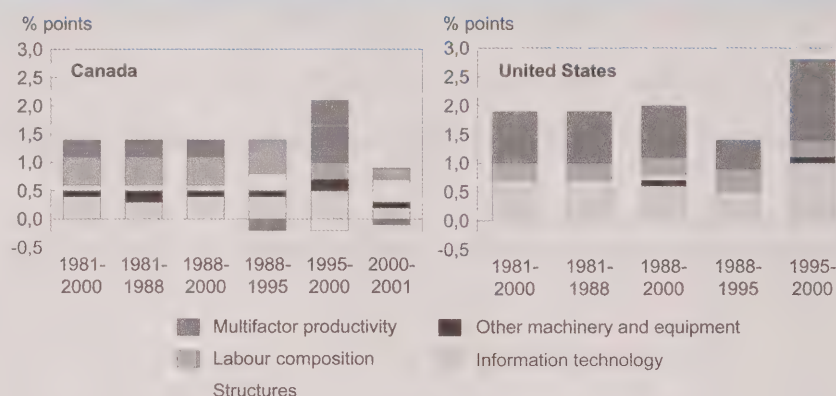


Source: Canadian Productivity Accounts

Since 1980, Canada and the United States have been through two business cycles (1981 to 1988, and 1988 to 2000). The 1980s were similar to the 1990s in both Canada and the U.S. in that labour productivity growth remained virtually unchanged (Chart B). Both periods saw a productivity gap in favour of the U.S. (about 0.5 percentage point).

During the 1980s and the 1990s in Canada, labour composition—which captures the increasing importance of skilled workers—was the largest contributor to labour productivity, followed by

**Chart B: Multifactor productivity became more significant after 1995.**



Sources: Canadian Productivity Accounts; U.S. Bureau of Labor Statistics

## Methodology

A number of U.S. studies have looked at the contribution of information technology to productivity growth. For brevity, however, this paper focuses on comparisons with contributions based on the U.S. Bureau of Labor Statistics (BLS) data, because the Canadian Productivity Accounts uses similar methods, and access to the BLS dataset allows the choice of comparison periods.

Computers, telecommunication systems and the Internet have brought revolutionary changes to businesses, consumers, education, health, entertainment and many other aspects of life. A defining characteristic is the greatly reduced costs of storing, accessing and exchanging information. This has reduced the costs of coordination, communications and information processing, and, increasingly, has also facilitated changes in what businesses do and how they do it.

Of particular interest have been the links between information technology and productivity growth. The framework provides three avenues for information technology to influence labour productivity:

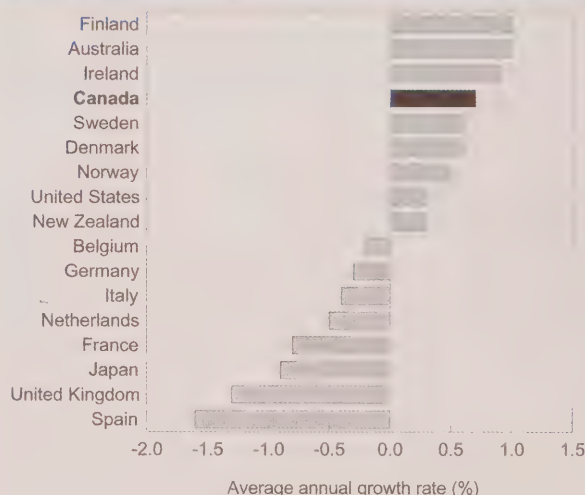
**Increases in capital intensity.** Labour productivity can rise as a result of higher capital use per unit of labour. Stronger investment in information technology can raise capital intensity.

**Productivity gains in information technology production.** Producers' ability to manufacture much more powerful information technology equipment, with little increase in inputs, generates substantial multifactor productivity gains. If the gains are of sufficient magnitude and production is on sufficient scale, they can show up as contributions to aggregate multifactor productivity growth.

**Productivity gains in industries using information technology.** This implies that use of information technology generates multifactor productivity gains.

increases in information technology capital intensity and multifactor productivity growth. In contrast, in the U.S., multifactor productivity growth drove the labour productivity increase, followed by information technology capital intensity, and labour composition.

**Chart C: Canada ranked near the top for business sector multifactor productivity revival in OECD countries.**



Source: OECD, 2001

Note: Change in average annual growth rate from 1980-1989 to 1990-1999. The Canadian figures in this chart are not comparable to those reported elsewhere in this article.



Between the early and late 1990s, labour productivity growth increased from 1.2% to 1.8% in Canada, largely as a result of the multifactor productivity revival. In contrast, owing to a surge in information technology capital intensity and multifactor productivity growth, the U.S. labour productivity growth doubled (from 1.4% to 2.8%) between these two periods.

Canada's increase in multifactor productivity in the 1990s improved not only relative to the U.S. but also by international standards (Chart C). Canada ranked fourth among the nine OECD countries to experience productivity acceleration in the 1990s.

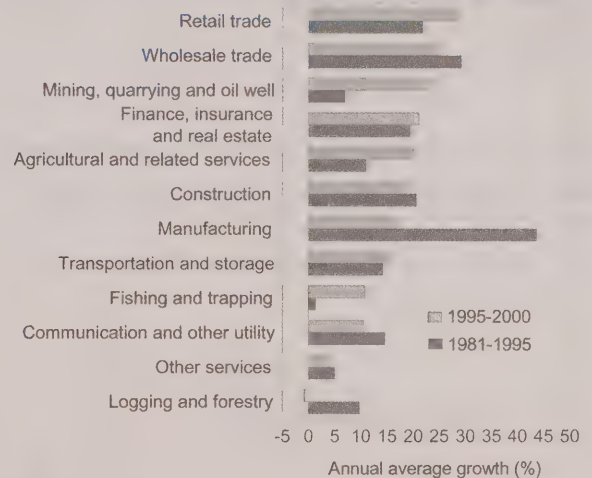
A convenient way to assess the breadth of the Canadian productivity revival is to examine the productivity performance of industries in the business sector (Chart D). For the 12 broad sectors, the changes in average productivity growth rates between the 1981-1995 and the 1995-2000 periods differ, ranging from a drop of 3.5% in mining, quarrying and oil well to a gain of 3.1% in agricultural and related services.

The multifactor productivity growth revival during the late 1990s was not confined to one sector—retail trade; communication and utilities; and finance, insurance, and real estate all saw strong gains. At the same

time, two major sectors, manufacturing and wholesale trade, experienced a productivity deceleration.

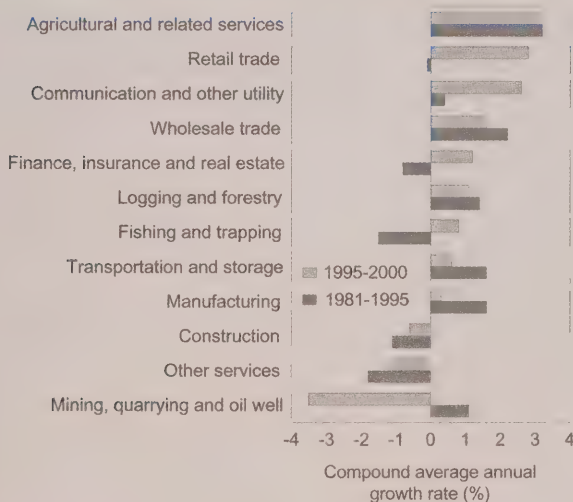
Part of the success of some industries was linked to information technology. For example, the financial sector restructured to operate much more through ATMs and Internet and telephone banking rather than through traditional face-to-face contact. Similarly, retailers were able to use bar-code and scanning technology and inventory management systems as part of a process that transformed wholesaling from a storage-based to a fast flow-through operation. These two industries reported the highest growth of information technology capital intensity during the late 1990s (Chart E).

**Chart E: Information technology capital expanded in virtually all industries.**



Source: Canadian Productivity Accounts

**Chart D: Most industries experienced a multifactor productivity revival after 1995.**



Source: Canadian Productivity Accounts

## Prosperity in the economy as a whole

What has the productivity surge meant for average incomes and the distribution of income in Canada?

Using labour productivity,<sup>2</sup> a simple relationship illustrates just how important productivity growth is to prosperity, measured as per capita GDP.<sup>3</sup>

$$\frac{GDP}{Persons} = \frac{GDP}{Hours\ worked} \cdot \frac{Hours\ worked}{Employees} \cdot \frac{Employees}{Persons}$$



Or, in other words,

$$\text{GDP per capita} = \text{Labour productivity}$$

$$\frac{\bullet \text{ Average hours worked} \bullet \text{ Employment ratio}}{\text{Labour utilization}}$$

The last two terms on the right-hand side are sometimes combined and referred to as the rate of labour utilization (OECD 2001). This measures the extent to which the population is actively engaged in employment activity—hours worked per capita.

During the 1990s, real income advanced at 1.4%, down from 1.9% during the 1980s, a reflection of a slower growth in labour utilization—from 0.8% in the 1980s to 0.1% in the 1990s (Chart F). In contrast, labour productivity growth remained virtually unchanged between these two periods. The 1990s brought a major turnaround in Canada's prosperity growth, even though it remained unchanged between the early and late 1990s.

**Chart F: Canada's standard of living improved sharply after 1995.**



Source: Canadian Productivity Accounts

Changes in labour utilization in the late 1990s boosted average real income, which grew at a remarkable 2.8% per year. When real income grows at this pace, each generation experiences a far more affluent lifestyle than the previous one. Over the course of a lifetime, parents can provide their children with a standard of living that is twice the level they themselves enjoyed as children.

## Perspectives

### Notes

1 This study uses the most recent annual data (September 2002) for productivity over the 1981-2000 period. Data are current as of July 2002 and reflect a downward revision in U.S. productivity estimates as of March 2002. More information on the revisions can be found at [www.statcan.ca/english/concepts/15-204/productivity.pdf](http://www.statcan.ca/english/concepts/15-204/productivity.pdf).

2 The coverage of the labour productivity measure differs in this section (whole economy output and hours worked) from that used in the previous section (business sector output and hours worked). The business sector measures are generally considered to be more representative of productivity trends since they exclude activities (such as government administration) for which output is hard to measure.

3 Labour productivity is a measure subject to a number of well-known criticisms as a welfare indicator, but it is a meaningful and useful indicator nonetheless.

### References

Crawford, Allan. 2002. "Trends in productivity growth in Canada." *Bank of Canada Review* (Spring): 19-33.

Organisation for Economic Co-operation and Development (OECD). 2001. *Science, technology and industry scoreboard: Towards a knowledge-based economy*. OECD: Paris.

# Key labour and income facts

## *Selected charts and analysis*

This section presents charts and analysis featuring one or more of the following sources. For general inquiries, contact Joanne Bourdeau at (613) 951-4722; [bourjoa@statcan.ca](mailto:bourjoa@statcan.ca).

### **Administrative data**

#### *Small area and administrative data*

Frequency: Annual

Contact: Customer Services  
(613) 951-9720

### **Business surveys**

#### *Annual Survey of Manufactures*

Frequency: Annual

Contact: Dissemination agent  
(613) 951-9497

#### *Annual Surveys—Service Industries*

Frequency: Annual

Contact: Lucie Lussier  
(613) 951-0410

#### *Business Conditions Survey of*

#### *Manufacturing Industries*

Frequency: Quarterly

Contact: Claude Robillard  
(613) 951-3507

### **Census**

#### *Census labour force characteristics*

Frequency: Quinquennial

Contact: Michel Côté  
(613) 951-6896

#### *Census income statistics*

Frequency: Quinquennial

Contact: John Gartley  
(613) 951-6906

### **Employment and income surveys**

#### *Labour Force Survey*

Frequency: Monthly

Contact: Marc Lévesque  
(613) 951-4090

#### *Survey of Employment, Payrolls and Hours*

Frequency: Monthly

Contact: Sylvie Picard  
(613) 951-4090

#### *Help-wanted Index*

Frequency: Monthly

Contact: Sylvie Picard  
(613) 951-4090

#### *Employment Insurance Statistics Program*

Frequency: Monthly

Contact: Sylvie Picard  
(613) 951-4090

#### *Major wage settlements*

Bureau of Labour Information

(Human Resources

Development Canada)

Frequency: Quarterly

Contact: (819) 997-3117  
1 800 567-6866

#### *Labour income*

Frequency: Quarterly

Contact: Anna MacDonald  
(613) 951-3784

#### *Survey of Labour and Income Dynamics*

Frequency: Annual

Contact: Client Services

(613) 951-7355 or

1 888 297-7355

#### *Survey of Financial Security*

Frequency: Occasional

Contact: Client Services

(613) 951-7355 or

1 888 297-7355

#### *Survey of Household Spending*

Frequency: Annual

Contact: Client Services

(613) 951-7355 or

1 888 297-7355

### **General social survey**

#### *Education, work and retirement*

Frequency: Occasional

Contact: Client Services  
(613) 951-5979

#### *Social and community support*

Frequency: Occasional

Contact: Client Services  
(613) 951-5979

#### *Time use*

Frequency: Occasional

Contact: Client Services  
(613) 951-5979

### **Pension surveys**

#### *Pension Plans in Canada Survey*

Frequency: Annual

Contact: Patricia Schembari  
(613) 951-9502

#### *Quarterly Survey of Trusteed*

#### *Pension Funds*

Frequency: Quarterly

Contact: Bob Anderson  
(613) 951-4034

### **Special surveys**

#### *Survey of Work Arrangements*

Frequency: Occasional

Contact: Ernest B. Akyeampong  
(613) 951-4624

#### *Adult Education and Training Survey*

Frequency: Occasional

Contact: Client Services

(613) 951-7355 or

1 888 297-7355

#### *Graduate Surveys*

(Postsecondary)

Frequency: Occasional

Contact: Client Services

(613) 951-7608

# Unionization

At 13.2 million, average paid employment (employees) during the first half of 2003 was 342,000 higher than during the same period a year earlier. Union membership also grew, from 3.9 million to 4.0 million. The increase in union membership, however, was proportionately larger than that for employees, so the union rate (density) rose from 30.3% to 30.5%.

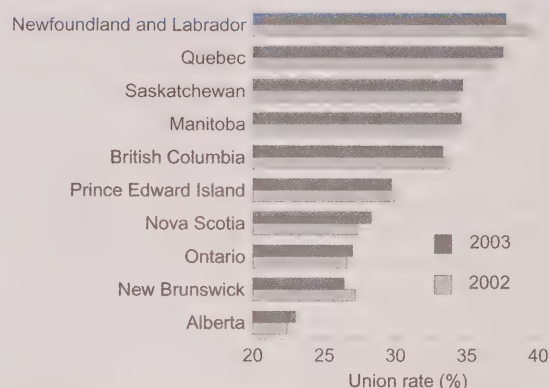
Both women and men saw increases in union membership. For women, the rate rose from 30.2% to 30.5%, and for men from 30.3% to 30.5%.

Most of the increase in membership occurred in the public sector, with the rate rising from 72.5% to 72.7%. The private-sector rate rose marginally from 18.0% to 18.1%.

Six provinces recorded rate increases; the remaining four (Newfoundland and Labrador, Prince Edward Island, New Brunswick, and British Columbia) saw declines (Chart A).

The rate among full-time employees rose from 31.9% to 32.1%, and among part-time workers from 23.3% to 23.7%.

**Chart A: Newfoundland and Labrador and Quebec remain the most unionized provinces, Alberta the least.**



Source: Labour Force Survey, January-to-June averages

## Data sources

Information on union membership, density and coverage by various socio-demographic characteristics, including earnings, are from the Labour Force Survey. Further details can be obtained from Marc Lévesque, Labour Statistics Division, Statistics Canada at (613) 951-4090.

Data on strikes, lockouts and workdays lost, and those on major wage settlements were supplied by Human Resources Development Canada. Further information on these statistics may be obtained from Angèle Charbonneau, Workplace Information Directorate, HRDC at 1 800 567-6866.



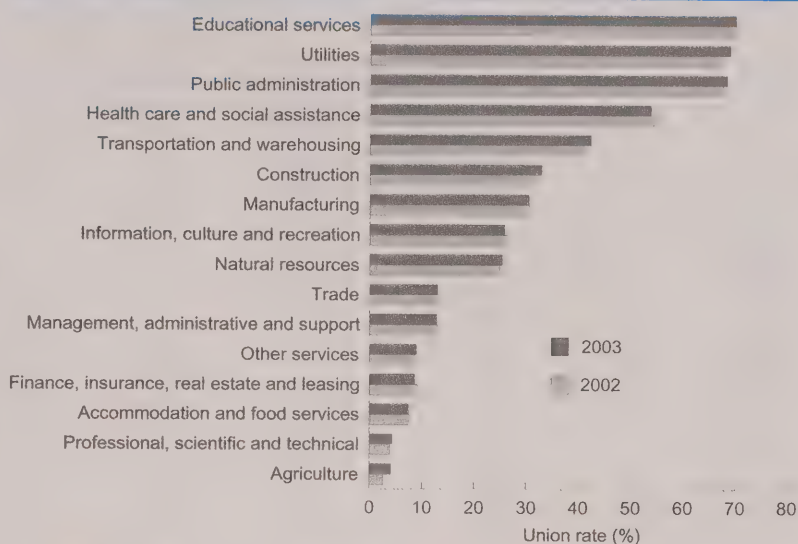
Increases were recorded for both permanent and non-permanent employees. The rate rose in firms with under 20 employees and in those with between 100 and 500 employees; it fell in the largest firms (those with over 500 employees) and remained unchanged in those with between 20 and 99 employees.

Unionization rose in 8 of the 16 major industry groups: agriculture; natural resources; utilities; construction; transportation and warehousing; professional, scientific and technical; public administration; and other (miscellaneous) industries. It remained unchanged in manufacturing, and fell in the rest of the industry groups (Chart B).

Among the 10 major occupational groups, union density rose in 6 and fell in 3. The 3 groups that fell were management; business, finance and administrative; and natural and applied sciences. Social and public service was unchanged. (Chart C).

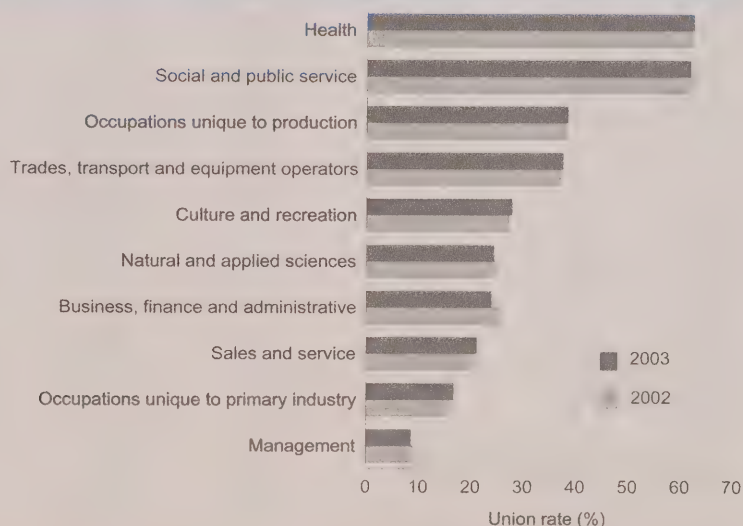
The number of employees who were not union members but were covered by a collective agreement averaged 272,000, virtually unchanged from the level a year earlier (see Akyeampong 2000 for a description of this group).

**Chart B: The highest union rates were in public-sector industries.**



Source: Labour Force Survey, January-to-June averages

**Chart C: Unionization in community service occupations far outpaced that in others.**



Source: Labour Force Survey, January-to-June averages

## Union membership and coverage in the first half of 2002 and 2003

	2002*			2003*		
	Total employees	Union density		Total employees	Union density	
		Members	Coverage**		Members	Coverage**
	'000	%	%	'000	%	%
<b>Both sexes</b>	<b>12,844</b>	<b>30.3</b>	<b>32.4</b>	<b>13,186</b>	<b>30.5</b>	<b>32.6</b>
Men	6,599	30.3	32.6	6,728	30.5	32.9
Women	6,245	30.2	32.1	6,458	30.5	32.3
<b>Sector†</b>						
Public	2,885	72.5	75.9	2,997	72.7	76.0
Private	9,959	18.0	19.7	10,188	18.1	19.8
<b>Age</b>						
15 to 24	2,171	13.5	15.4	2,233	13.9	15.7
25 to 54	9,463	33.5	35.7	9,588	33.6	35.7
25 to 44	6,564	30.3	32.5	6,596	30.0	32.1
45 to 54	2,899	40.8	43.0	2,992	41.4	43.6
55 and over	1,210	34.9	36.7	1,364	36.5	38.3
<b>Education</b>						
Less than Grade 9	369	28.9	30.9	383	30.8	32.6
Some high school	1,580	22.3	23.7	1,564	23.8	25.3
High school graduation	2,739	28.1	29.7	2,695	27.7	29.5
Some postsecondary	1,226	23.8	25.7	1,347	23.6	25.5
Postsecondary certificate or diploma	4,374	33.7	36.1	4,532	33.8	35.9
University degree	2,556	34.9	37.6	2,665	35.3	38.0
<b>Province</b>						
Atlantic	891	29.9	31.2	906	29.7	31.1
Newfoundland and Labrador	183	39.2	40.5	184	37.7	39.4
Prince Edward Island	54	29.9	31.4	55	29.7	31.3
Nova Scotia	359	27.3	28.3	371	28.3	29.5
New Brunswick	295	27.2	29.0	296	26.4	28.0
Quebec	3,073	37.0	40.9	3,128	37.5	41.1
Ontario	5,097	26.6	28.1	5,275	27.0	28.7
Prairies	2,215	26.9	29.0	2,253	27.4	29.2
Manitoba	477	34.1	35.8	477	34.6	36.8
Saskatchewan	373	34.3	36.0	382	34.7	36.2
Alberta	1,365	22.4	24.7	1,395	23.0	24.6
British Columbia	1,568	33.8	34.9	1,623	33.3	34.5
<b>Work status</b>						
Full-time	10,457	31.9	34.1	10,707	32.1	34.3
Part-time	2,387	23.3	24.8	2,479	23.7	25.3
<b>Industry</b>						
Goods-producing	3,195	30.8	32.9	3,276	31.0	33.2
Agriculture	105	2.7	3.6	120	4.1	4.8
Natural resources	224	24.9	26.8	229	25.3	26.6
Utilities	129	66.6	67.9	130	68.9	72.4
Construction	548	31.4	33.8	598	32.8	34.4
Manufacturing	2,188	30.4	32.7	2,198	30.4	32.8
Service-producing	9,649	30.1	32.2	9,910	30.4	32.4
Trade	2,099	13.2	14.5	2,134	13.0	14.6
Transportation and warehousing	612	40.9	43.1	620	42.2	44.0
Finance, insurance, real estate and leasing	753	9.2	10.8	785	8.6	9.9
Professional, scientific and technical	668	3.9	5.4	661	4.3	5.4
Management, and administrative and support	421	12.9	14.9	452	12.8	14.7
Education	982	70.2	73.6	1,037	70.0	73.4
Health care and social assistance	1,383	54.2	56.7	1,461	53.7	55.6
Information, culture and recreation	598	26.5	28.2	572	25.8	28.2
Accommodation and food	901	7.6	8.3	910	7.5	8.2
Other	458	8.6	10.2	481	9.0	11.0
Public administration	775	67.5	72.3	798	68.3	73.3

## Union membership and coverage in the first half of 2002 and 2003 (concluded)

	2002*			2003*		
	Total employees	Union density		Total employees	Union density	
		Members	Coverage**		Members	Coverage**
	'000	%	%	'000	%	%
<b>Occupation</b>						
Management	892	8.9	11.8	872	8.6	10.9
Business, finance and administrative	2,542	25.2	27.0	2,534	23.9	26.1
Professional	338	18.6	21.0	333	16.1	18.1
Financial and administrative	694	22.1	24.2	690	21.0	23.1
Clerical	1,510	28.1	29.7	1,511	27.0	29.1
Natural and applied sciences	857	24.6	27.0	889	24.4	27.0
Health	732	62.1	65.1	769	62.5	64.6
Professional	86	40.9	48.5	86	43.9	50.4
Nursing	250	81.9	84.2	259	81.2	82.8
Technical	169	56.7	59.8	176	56.6	57.7
Support staff	228	52.5	54.2	247	53.6	55.3
Social and public service	979	61.9	64.6	1,036	61.9	64.7
Legal, social and religious workers	394	40.0	42.7	410	41.2	43.6
Teachers and professors	585	76.6	79.3	626	75.5	78.6
Secondary and elementary	412	88.2	90.0	429	89.3	91.1
Other	174	49.2	53.9	197	45.4	51.4
Culture and recreation	268	27.1	29.6	287	27.8	29.4
Sales and service	3,456	20.5	22.0	3,565	21.2	22.7
Wholesale	349	5.8	8.1	363	6.3	8.0
Retail	946	12.3	13.4	983	12.8	13.8
Food and beverage	517	9.7	10.4	511	8.8	9.7
Protective services	222	54.9	59.4	221	53.6	59.4
Child care and home support	241	36.7	38.4	255	39.5	41.7
Travel and accommodation	1,181	26.3	27.7	1,232	27.7	28.8
Trades, transport and equipment operators	1,709	37.0	39.1	1,783	37.5	39.6
Contractors and supervisors	115	28.7	31.7	105	30.7	32.7
Construction trades	217	39.7	42.3	227	40.4	42.6
Other trades	655	40.1	42.4	685	39.6	41.9
Transportation equipment operators	465	35.6	37.1	476	36.7	38.6
Helpers and labourers	256	32.9	35.2	290	33.9	36.0
Unique to primary industries	229	15.9	17.3	252	16.8	17.5
Unique to production	1,181	37.9	40.3	1,198	38.4	41.1
Machine operators and assemblers	990	37.5	39.9	998	38.5	41.2
Labourers	191	40.1	42.5	199	38.1	40.7
<b>Workplace size</b>						
Under 20 employees	4,281	12.6	14.1	4,403	12.8	14.1
20 to 99 employees	4,218	31.2	33.3	4,291	31.2	33.2
100 to 500 employees	2,767	42.2	44.8	2,856	43.3	46.0
Over 500 employees	1,577	54.7	57.7	1,636	54.4	57.3
<b>Job tenure</b>						
1 to 12 months	2,871	14.7	16.9	2,912	15.0	17.4
Over 1 year to 5 years	4,334	22.6	24.5	4,431	22.9	24.6
Over 5 years to 9 years	1,555	29.6	31.2	1,741	30.7	32.6
Over 9 years to 14 years	1,499	42.1	44.4	1,436	41.0	43.2
Over 14 years	2,585	54.0	56.5	2,665	54.5	56.9
<b>Job status</b>						
Permanent	11,255	30.9	32.9	11,614	31.1	33.0
Non-permanent	1,589	25.8	28.5	1,572	26.5	29.3

Source: Labour Force Survey

\* January-to-June average.

\*\* Union members and persons who are not union members but who are covered by collective agreements (for example, some religious group members).

† Public sector: employees in government departments or agencies; crown corporations, or publicly funded schools, hospitals, or other institutions. Private sector: all other wage and salary earners.



Approximately 3.9 million (30.0%) employees belonged to a union in 2002. An additional 277,000 (2.2%) were covered by a collective agreement.

Employees in the public sector—government, crown corporations, and publicly funded schools or hospitals—were four times as likely as their private-sector counterparts to belong to a union (72.4% versus 17.9%).

Almost 1 in 3 full-time employees belonged to a union, compared with about 1 in 4 part-time. Also, almost 1 in 3 permanent employees was a union member, compared with roughly 1 in 4 non-permanent.

High union rates were found among employees aged 45 to 54 (40.7%); for those with university degrees (34.9%); in Newfoundland and Labrador (37.7%) and Quebec (36.5%); in educational services (70.3%), public administration (67.2%), and utilities (65.2%); and in health care occupations (62.5%).

Low union rates were recorded by 15 to 24 year-olds (13.3%), in Alberta (22.3%); in agriculture (2.9%); professional, scientific and technical services (4.1%); and in management occupations (9.1%).

## Union membership, 2002

	Total employees '000	Union member	
		Total '000	Density %
<b>Both sexes</b>	<b>13,066</b>	<b>3,924</b>	<b>30.0</b>
Men	6,737	2,021	30.0
Women	6,329	1,903	30.1
<b>Sector*</b>			
Public	2,908	2,106	72.4
Private	10,158	1,817	17.9
<b>Age</b>			
15 to 24	2,265	301	13.3
25 to 54	9,558	3,193	33.4
25 to 44	6,628	1,999	30.2
45 to 54	2,930	1,194	40.7
55 and over	1,243	429	34.5
<b>Education</b>			
Less than Grade 9	391	109	27.8
Some high school	1,613	353	21.9
High school graduation	2,781	768	27.6
Some postsecondary	1,259	297	23.6
Postsecondary certificate or diploma	4,430	1,491	33.7
University degree	2,592	906	34.9
<b>Province</b>			
Atlantic	916	267	29.2
Newfoundland and Labrador	189	71	37.7
Prince Edward Island	56	16	29.2
Nova Scotia	367	100	27.2
New Brunswick	304	80	26.3
Quebec	3,118	1,139	36.5
Ontario	5,188	1,378	26.6
Prairies	2,246	604	26.9
Manitoba	481	166	34.5
Saskatchewan	380	129	34.0
Alberta	1,385	309	22.3
British Columbia	1,598	535	33.5
<b>Work status</b>			
Full-time	10,696	3,374	31.5
Part-time	2,369	550	23.2
<b>Industry</b>			
Goods-producing	3,314	1,009	30.4
Agriculture	119	3	2.9
Natural resources	227	56	24.6
Utilities	131	86	65.2
Construction	605	189	31.2
Manufacturing	2,231	675	30.2
Service-producing	9,752	2,915	29.9
Trade	2,130	269	12.6
Transportation and warehousing	628	261	41.6
Finance, insurance, real estate and leasing	764	68	8.9
Professional, scientific and technical	665	28	4.1
Management, and administrative and support	438	58	13.2
Education	968	681	70.3
Health care and social assistance	1,412	764	54.1
Information, culture and recreation	602	154	25.6
Accommodation and food	907	66	7.3
Other	460	42	9.2
Public administration	778	523	67.2

The union rate for men (30.0%) in 2002, for the first time was marginally lower than that for women (30.1%).

The rate for male part-time employees (18.2%) was much lower than for full-time (31.4%). Among women the gap was narrower (25.3% versus 31.8%).

The unionization rate of women in the public sector (74.3%) exceeded that of men (69.6%), reflecting women's presence in public administration and in teaching and health positions. However, in the private sector, only 13.0% were unionized, compared with 21.9% of men. The lower rate reflected women's pre-dominance in sales and several service occupations.

A higher-than-average union rate was recorded among men with a post-secondary certificate or diploma (33.9%), as well as those with high school graduation (30.9%). For women, the highest rate was registered by those with a university degree (42.1%), reflecting unionization in occupations such as health care and teaching.

Men in permanent positions had slightly higher rates (31.0%) than women in similar jobs (30.6%). Among employees in non-permanent positions, women were more unionized (26.4%) than men (23.2%).

## Union membership, 2002 (concluded)

	Total employees '000	Union member	
		Total '000	Density %
<b>Occupation</b>			
Management	881	80	9.1
Business, finance and administrative	2,526	631	25.0
Professional	341	61	18.0
Financial and administrative	682	148	21.7
Clerical	1,503	421	28.0
Natural and applied sciences	893	218	24.4
Health	750	469	62.5
Professional	86	33	38.8
Nursing	263	216	82.1
Technical	172	99	57.2
Support staff	229	121	52.9
Social and public service	984	604	61.4
Legal, social and religious workers	404	161	39.9
Teachers and professors	580	443	76.4
Secondary and elementary	403	357	88.8
Other	178	86	48.2
Culture and recreation	274	72	26.2
Sales and service	3,495	708	20.3
Wholesale	345	23	6.5
Retail	982	121	12.3
Food and beverage	515	48	9.3
Protective services	220	119	54.3
Child care and home support	233	84	36.3
Travel and accommodation	1,200	313	26.1
Trades, transport and equipment operators	1,794	654	36.5
Contractors and supervisors	120	33	27.4
Construction trades	232	92	39.8
Other trades	673	265	39.4
Transportation equipment operators	490	175	35.8
Helpers and labourers	280	89	31.8
Unique to primary industries	257	39	15.3
Unique to production	1,211	448	37.0
Machine operators and assemblers	1,015	375	36.9
Labourers	197	74	37.4
<b>Workplace size</b>			
Under 20 employees	4,345	541	12.5
20 to 99 employees	4,312	1,327	30.8
100 to 500 employees	2,804	1,171	41.8
Over 500 employees	1,605	884	55.1
<b>Job tenure</b>			
1 to 12 months	2,961	432	14.6
Over 1 year to 5 years	4,407	1,004	22.8
Over 5 years to 9 years	1,629	479	29.4
Over 9 years to 14 years	1,475	611	41.5
Over 14 years	2,594	1,396	53.8
<b>Job status</b>			
Permanent	11,374	3,504	30.8
Non-permanent	1,692	420	24.8

Source: Labour Force Survey

\* Public sector: employees in government departments or agencies; crown corporations; or publicly funded schools, hospitals or other institutions.  
Private sector: all other wage and salary earners.

Unionized jobs generally provide higher earnings than non-unionized ones. Of course, the differences reflect many factors in addition to collective bargaining provisions. These include differences in the distribution of unionized and non-unionized employees by age, sex, job tenure, industry, occupation, firm size, or geographical location.

The effects of these factors are not examined, but it is clear that unionized workers and jobs tend to have certain characteristics that are associated with higher earnings. For example, union density ratios are higher among men, older workers, those with higher education, employees with long tenure, and those in larger firms. Clearly, not all differences in earnings and non-wage benefits can be attributed solely to union status (Akyeampong 2002), but a recent study (Fang and Verma) estimated the union wage premium (after adjusting for employee and workplace characteristics) at 7.7%.

In 2002, average hourly earnings of unionized workers were higher than those of non-unionized workers. This held true for both full-time (\$21.01 versus \$17.71) and part-time (\$17.74 versus \$10.71) workers.

In addition to having higher hourly earnings, unionized part-time employees usually worked more hours each week than their non-union-

### Average earnings and usual hours by union and job status, 2002

	Hourly earnings			Usual weekly hours, main job		
	All employees	Full-time	Part-time	All employees	Full-time	Part-time
	\$					
<b>Both sexes</b>	<b>17.66</b>	<b>18.82</b>	<b>12.40</b>	<b>35.60</b>	<b>39.60</b>	<b>17.40</b>
Union member	20.55	21.01	17.74	36.00	38.70	19.30
Union coverage*	20.51	20.98	17.58	36.10	38.80	19.20
Not a union member**	16.30	17.71	10.71	35.30	40.00	16.80
<b>Men</b>	<b>19.38</b>	<b>20.30</b>	<b>11.47</b>	<b>38.30</b>	<b>40.80</b>	<b>16.50</b>
Union member	21.44	21.78	16.43	38.40	39.80	18.30
Union coverage*	21.43	21.78	16.21	38.50	39.90	18.20
Not a union member**	18.40	19.54	10.32	38.10	41.30	16.10
<b>Women</b>	<b>15.82</b>	<b>16.90</b>	<b>12.79</b>	<b>32.70</b>	<b>38.00</b>	<b>17.80</b>
Union member	19.61	20.02	18.14	33.40	37.30	19.60
Union coverage*	19.52	19.95	18.01	33.40	37.40	19.60
Not a union member**	14.08	15.35	10.89	32.30	38.30	17.10
<b>Atlantic</b>	<b>14.61</b>	<b>15.46</b>	<b>10.22</b>	<b>36.70</b>	<b>40.50</b>	<b>17.40</b>
Union member	18.65	18.85	16.95	37.40	39.50	20.10
Union coverage*	18.60	18.82	16.77	37.40	39.60	19.90
Not a union member**	12.86	13.84	8.56	36.40	40.90	16.80
<b>Quebec</b>	<b>16.97</b>	<b>17.86</b>	<b>12.94</b>	<b>34.80</b>	<b>38.50</b>	<b>18.10</b>
Union member	19.70	19.90	18.46	35.30	37.80	20.30
Union coverage*	19.60	19.82	18.22	35.40	37.90	20.20
Not a union member**	15.19	16.41	10.56	34.40	38.90	17.10
<b>Ontario</b>	<b>18.56</b>	<b>19.93</b>	<b>12.03</b>	<b>35.80</b>	<b>39.80</b>	<b>17.10</b>
Union member	21.45	22.09	16.84	36.60	39.10	18.50
Union coverage*	21.45	22.11	16.71	36.60	39.20	18.40
Not a union member**	17.43	19.00	10.87	35.50	40.00	16.70
<b>Prairies</b>	<b>17.11</b>	<b>18.27</b>	<b>11.93</b>	<b>36.10</b>	<b>40.40</b>	<b>17.30</b>
Union member	19.75	20.26	16.96	36.20	39.20	19.40
Union coverage*	19.81	20.34	16.88	36.30	39.30	19.30
Not a union member**	16.01	17.39	10.37	36.10	40.80	16.70
<b>British Columbia</b>	<b>18.58</b>	<b>19.84</b>	<b>14.01</b>	<b>34.60</b>	<b>39.40</b>	<b>17.40</b>
Union member	21.90	22.54	19.10	35.00	38.60	19.00
Union coverage*	21.90	22.58	18.95	35.00	38.70	18.90
Not a union member**	16.81	18.30	11.93	34.40	39.80	16.70

Source: Labour Force Survey

\* Union members and persons who are not union members, but who are covered by collective agreements (for example, some religious group members).

\*\* Workers who are neither union members nor covered by collective agreements.

ized counterparts (19.3 hours versus 16.8). As a result, their average weekly earnings were nearly double (\$350.89 versus \$183.99).

On average, unionized women working full time received 92% of their male counterparts' hourly earnings. In contrast, women working part time earned 10% more.



As in 2001, wage gains in contract settlements in 2002 surpassed the rate of inflation (2.8% versus 2.2%). For the first four months of 2003, wage gains again averaged 2.8% but the inflation rate had jumped to 4.1%.

Wage gains in the private sector exceeded those in the public sector every year during the 1990s, but since 2000 the picture has reversed.

Annual statistics on strikes, lockouts and person-days lost are affected by several factors, including collective bargaining timetables, size of the unions involved, strike

duration, and the state of the economy. The number of collective agreements up for renewal in a year determines the potential for industrial disputes. Union size and strike duration determine the number of person-days lost in the event of a strike. The state of the economy influences the likelihood of an industrial dispute, given that one is legally possible.

The estimated work time lost through strikes and lockouts rose from 0.05% in 2000, to 0.07% in 2001, to 0.09 in 2002. However, these figures are only one-fifth the levels of 20 years earlier (1980 and 1981).

### Major wage settlements, inflation and labour disputes

Year	Average annual increase in base wage rates*			Annual change in Consumer Price Index*	Labour disputes and time lost			
	Public sector employees**	Private sector employees**	Total employees		Strikes & lockouts	Workers involved	Person-days not worked	Proportion of estimated working time
			%			'000	'000	%
1980	10.9	11.7	11.1	10.1	1,028	439	9,130	0.37
1981	13.1	12.6	13.0	12.4	1,049	341	8,850	0.35
1982	10.4	9.5	10.2	10.9	679	464	5,702	0.23
1983	4.6	5.5	4.8	5.8	645	329	4,441	0.18
1984	3.9	3.2	3.6	4.3	716	187	3,883	0.15
1985	3.8	3.3	3.7	4.0	829	162	3,126	0.12
1986	3.6	3.0	3.4	4.1	748	484	7,151	0.27
1987	4.1	3.8	4.0	4.4	668	582	3,810	0.14
1988	4.0	5.0	4.4	4.0	548	207	4,901	0.17
1989	5.2	5.2	5.2	5.0	627	445	3,701	0.13
1990	5.6	5.7	5.6	4.8	579	270	5,079	0.17
1991	3.4	4.4	3.6	5.6	463	253	2,516	0.09
1992	2.0	2.6	2.1	1.5	404	150	2,110	0.07
1993	0.6	0.8	0.7	1.8	381	102	1,517	0.05
1994	...	1.2	0.3	0.2	374	81	1,607	0.06
1995	0.6	1.4	0.9	2.2	328	149	1,583	0.05
1996	0.5	1.7	0.9	1.6	330	282	3,351	0.11
1997	1.1	1.8	1.5	1.6	284	258	3,610	0.12
1998	1.6	1.8	1.7	0.9	381	244	2,444	0.08
1999	2.0	2.7	2.2	1.7	413	159	2,443	0.08
2000	2.5	2.4	2.5	2.7	379	143	1,657	0.05
2001	3.3	3.0	3.2	2.6	381	221	2,204	0.07
2002	2.9	2.6	2.8	2.2	293	169	3,033	0.09
2003	3.0	2.3	2.8	4.1				

Sources: Prices Division; Human Resources Development Canada, Workplace Information Directorate

Note: Major wage settlements refer to agreements involving 500 or more employees.

\* 2003 data refer to January to April only.

\*\* Public sector employees are those working for government departments or agencies, crown corporations or publicly funded schools, hospitals or other institutions. Private sector employees are all other wage and salary earners.

# Property taxes

In 1999, 6 out of every 10 families owned a home. The rate of homeownership varied by province. Newfoundland and Labrador had the highest rate (73%) and Quebec the lowest (55%), while Ontario and British Columbia with rates of 60% and 58% respectively were close to the national average.

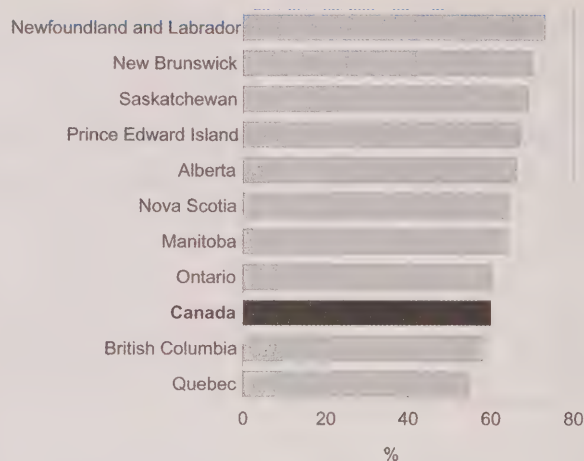
## Provincial differences in property taxes

The 1999 Survey of Financial Security (SFS) collected the market value (rather than the assessed value) of homes in May to July 1999 and the property tax paid during the calendar year 1998. These charts and tables examine the link between the two at a provincial level.

The value of a home depends on several factors: size, location, appreciation in value since acquisition, local demand/supply situation, and price of developed land. Therefore, market values will vary not only across provinces but also among localities within a province.

A public-use microdata file for the 1999 SFS is available on CD-ROM (13M0006XCB, \$2,000). For more information, contact Client Services, Income Statistics Division at 1 888 297-7355; (613) 951-7355; fax: (613) 951-3012; [income@statcan.ca](mailto:income@statcan.ca).

## Rate of homeownership



Source: Survey of Financial Security, 1999

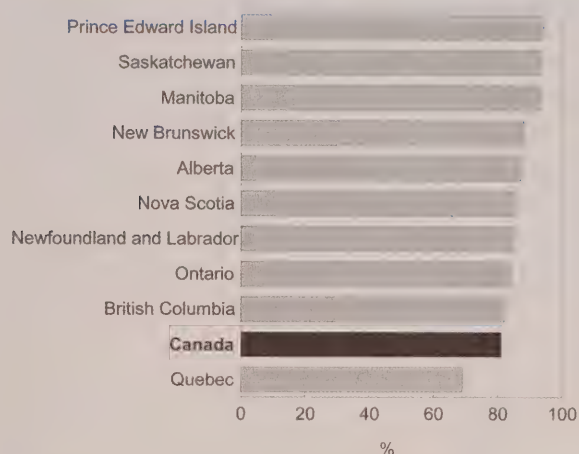
The owned homes took several forms: single/detached (with or without adjoining land in the case of farm families), double/semi-detached, row/terrace, duplex, apartment, or mobile home in a trailer park. The majority of homeownership families lived in a single detached home, the proportion varying from 93% in Manitoba to 73% in British Columbia. For Ontario and Quebec, the proportions were 80% and 74% respectively. The second largest group in Ontario were owners of double/semi-detached homes (8%). Second place in Newfoundland and Labrador was held by duplex owners (4%), and in the remaining provinces by owners of 'other' structures.

### Homeowning families by type of property

	Single/ detached	Double/ semi- detached	Row/ terrace	Duplex	Other
	%				
<b>Canada</b>	<b>79.5</b>	<b>5.2</b>	<b>4.3</b>	<b>3.4</b>	<b>7.6</b>
Newfoundland and Labrador	88.9	2.2	1.8	4.4	2.7
Prince Edward Island	88.6	0.7	0.0	1.9	8.7
Nova Scotia	87.9	2.8	0.6	2.1	6.6
New Brunswick	86.0	0.8	0.8	1.6	10.8
Quebec	73.8	6.3	2.7	8.4	8.8
Ontario	80.5	7.9	5.1	1.5	5.0
Manitoba	92.5	1.8	1.4	0.7	3.7
Saskatchewan	91.5	0.5	1.5	0.8	5.8
Alberta	82.0	2.5	5.8	1.7	8.0
British Columbia	72.8	2.4	7.4	3.0	14.4

Source: Survey of Financial Security, 1999

### Share of total property taxes paid by owners of single/detached homes



Source: Survey of Financial Security, 1999

Overall, families in single/detached homes paid the bulk (81%) of the total \$12.6 billion paid for property taxes in 1998. The rate was over 90% in Prince Edward Island, Saskatchewan and Manitoba; and between 82% and 88% in Newfoundland and Labrador, Nova Scotia, New Brunswick, Ontario, Alberta and British Columbia. Owners of single/detached homes in Quebec, on the other hand, contributed only 69% of the total property tax in that province.



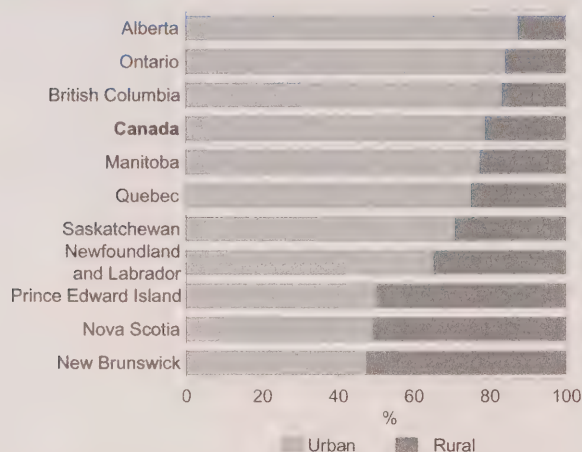
In 1998, homeownership families with a single/detached home in Ontario paid the highest property tax (\$2,319) while those in Newfoundland and Labrador paid the lowest (\$611). Some of the interprovincial variation can be attributed to differences in the urban-rural mix and the value of homes across Canada.

### Average property tax by type of property

	Single/ detached	Double/ semi- detached	Row/ terrace	Duplex	Other
	\$				
<b>Canada</b>	<b>1,861</b>	<b>1,999</b>	<b>1,494</b>	<b>2,455</b>	<b>1,361</b>
Newfoundland and Labrador	611	675	636	1,367	349
Prince Edward Island	1,073	1,025	0	925	388
Nova Scotia	956	745	980	3,830	559
New Brunswick	922	2,468	1,032	1,433	497
Quebec	1,898	2,220	2,083	2,903	2,120
Ontario	2,319	1,992	1,793	1,889	1,699
Manitoba	1,786	1,474	760	1,842	1,880
Saskatchewan	1,517	2,961	2,271	1,086	691
Alberta	1,456	1,896	852	1,274	810
British Columbia	1,605	1,609	972	1,696	721

Source: Survey of Financial Security, 1999

### Homeowning families in urban and rural areas

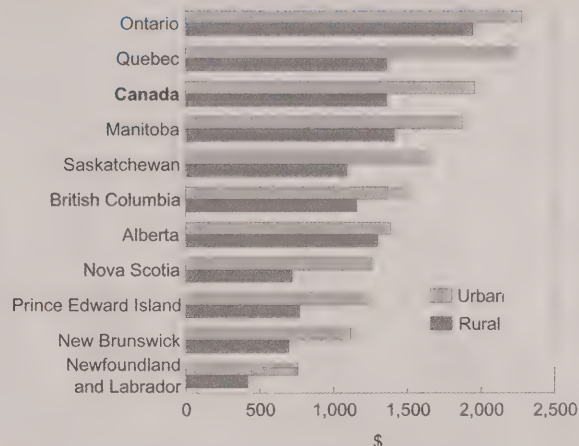


Source: Survey of Financial Security, 1999

The urban-rural split of homeownership families shows considerable variation by province. In Ontario, Alberta and British Columbia, between 83% and 88% of all families were living in urban areas, compared with around 50% in Prince Edward Island, Nova Scotia and New Brunswick. Overall, 79% of Canadian families were living in urban areas in 1999.

Irrespective of province, families in urban areas paid more in property taxes than their counterparts in the rural areas. The differences were more pronounced in some provinces than in others. Although families in urban areas of Quebec and Ontario paid on average almost the same (around \$2,300), those in rural areas paid quite different amounts (\$1,362 in Quebec; \$1,952 in Ontario). Across Canada, the average amount paid by urban families ranged from \$758 in Newfoundland and Labrador to \$2,281 in Ontario. The amount paid by rural families ranged from \$416 and \$1,952 for the same provinces. The range of mean property taxes paid by urban and rural families was almost the same across Canada.

### Average property taxes in urban and rural areas

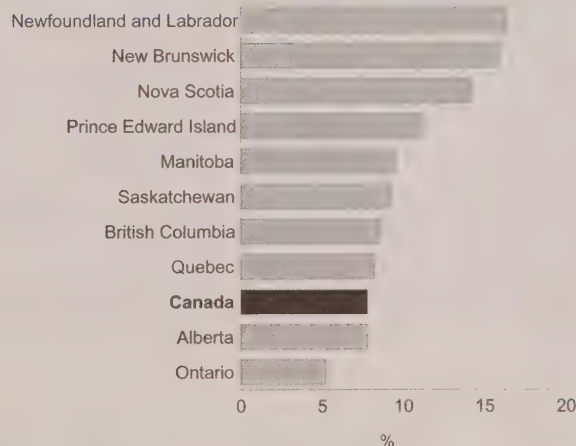


Source: Survey of Financial Security, 1999

A family with no or low income does not pay income tax. However, any family that owns a home must pay property tax. The proportion of families who paid property tax but no income tax was higher in the Atlantic provinces (ranging from 16.4% in Newfoundland and Labrador to 11.2% in Prince Edward Island) than in the Prairies (from 9.5% in Manitoba to 7.8% for Alberta). The proportion in Ontario was just over 5%.

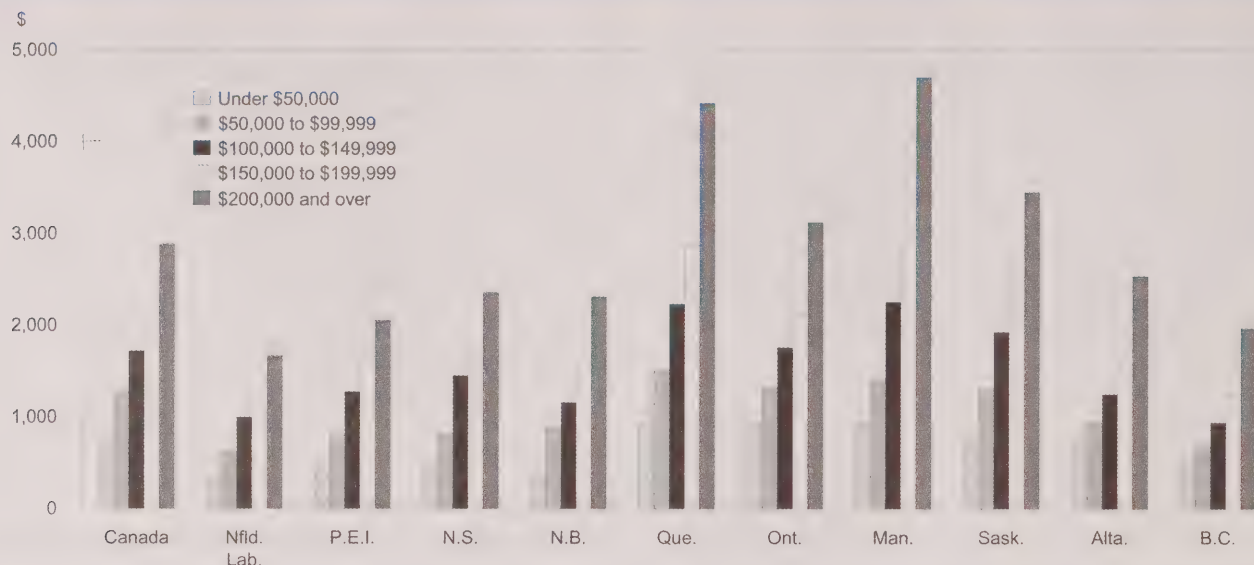
Families who paid property tax but no income tax were mostly elderly. The average age of the major income recipient in these families varied between 58 and 68 years across provinces. In families paying both kinds of tax, the average age ranged from 48 to 51.

### Families paying property tax but no income tax



Source: Survey of Financial Security, 1999

## Average property taxes by value of property



Source: Survey of Financial Security, 1999

In all provinces, the average tax paid rose as the value of the home increased, although the incremental tax increases with respect to home values were somewhat different. For example, in New Brunswick, families with homes worth \$200,000 and over paid 6.3 times the tax paid by those with homes valued under \$50,000, compared with 5.1 in Manitoba and 3.4 in both Ontario and Alberta.

Evidently, families owning homes of equal market value were paying different amounts of property tax across the provinces. To illustrate, families with homes valued under \$50,000 paid, on average, property taxes ranging between \$344 and \$926. Those with homes

worth between \$100,000 and \$149,999 paid between \$933 and \$2,245. For homes \$200,000 and over, the range was between \$1,660 and \$4,691. For a given market value group, families in Manitoba and Quebec paid the highest taxes.

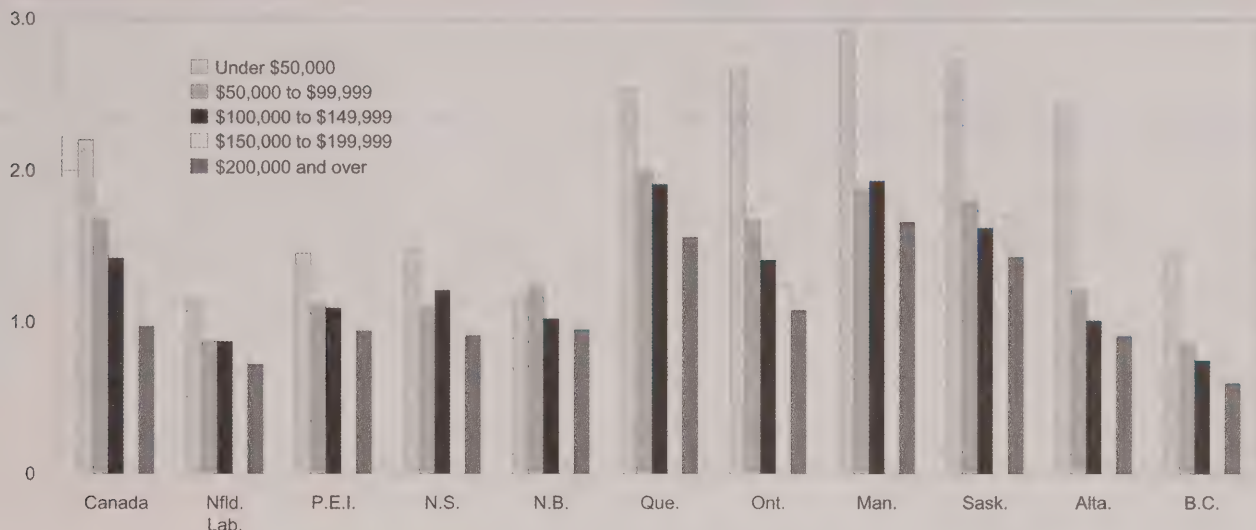
Families in British Columbia with high-priced homes (69% of all families owned homes worth \$200,000 and over) did not necessarily pay higher property taxes. The average amount paid by these families was \$1,957—fairly close to the \$1,660 paid by similar families in Newfoundland and Labrador. Similarly priced homes in Ontario and Alberta, on the other hand, had tax bills of \$3,111 and \$2,526 respectively.

These tables and charts complement the article "Property taxes" in this issue. For definitions and a description of the data source, see the article.



## The ratio of average property tax to market value of home

Property tax as % of property value

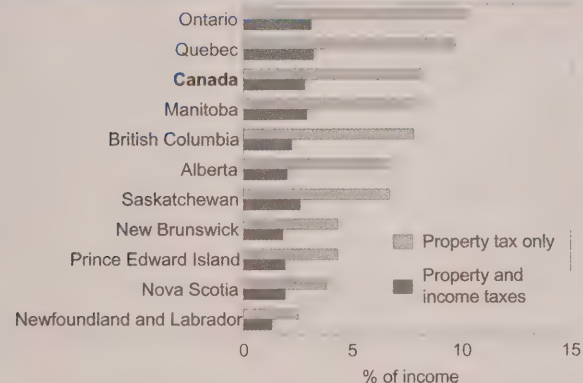


Source: Survey of Financial Security, 1999

The ratio of average property tax to market value of home is another indicator that can be used for interprovincial comparisons of property taxes. In almost all instances, the ratio declines as the market value increases, indicating that

property taxes are regressive in relation to home values. The ratio ranged between 1.15 and 2.92 for families with homes worth under \$50,000; and between 0.72 and 1.66 for those with homes priced at \$200,000 and over.

## Property tax paid by payers and non-payers of income tax



Source: Survey of Financial Security, 1999

Homeowning families paying property tax but no income tax in 1998 spent a larger proportion of their income on property tax than families paying both property tax and income tax. In Ontario and Quebec, property tax was 10% of income for families paying only property tax compared with about 3% for families paying both taxes. In Newfoundland and Labrador, the proportions were 2.5% and 1.3%.

The average income of families who paid only property tax ranged from \$16,000 to \$18,000 across the provinces compared with \$52,500 to \$73,400 for those who paid both taxes. Families paying only property tax were most likely elderly with low incomes.

### Decomposition of the difference in average property tax paid by province relative to Ontario, 1998

	Percentage decomposition due to:	
	Market value of home	Effective tax rate
	%	
Newfoundland and Labrador	76.1	23.9
Prince Edward Island	85.9	14.1
Nova Scotia	90.7	9.3
New Brunswick	91.9	8.1
Quebec	546.6	-446.6
Ontario	...	...
Manitoba	297.6	-197.6
Saskatchewan	191.3	-91.3
Alberta	61.3	38.7
British Columbia	-40.3	140.3

Source: Survey of Financial Security, 1999

Since property taxes and values of owner-occupied homes are strongly associated, and since this association varies within a province, it may be interesting to see how unequally property taxes and market values of homes are distributed within each province. Does the province with the most unequally distributed market values of homes show the most unequal distribution of property taxes as well?

In each province, property taxes were more unequally distributed than market values of owner-occupied homes. The highest gap (38%) occurred in Nova Scotia, the lowest (9%) in British Columbia. For families in Ontario, the gap amounted to 10%—much closer to that experienced by their counterparts in British Columbia.

Of the total difference in average property taxes paid in 1998 by families in Newfoundland and Labrador and in Ontario, 24% was due to the difference in effective tax rates and the remaining 76% to the difference in market values of homes; the corresponding proportions for Alberta were 39% and 61%. On the other hand, the difference in the average taxes paid by families in Ontario and those in Quebec, Manitoba, or Saskatchewan was much more attributable to the difference in market values of homes, whereas the difference in their effective tax rates had a more modifying and compensatory effect. However, the reverse was true in the case of British Columbia and Ontario where the difference in effective tax rates (proxied as mill rates) was more pronounced.

### Gini coefficients of market values of owner-occupied homes and property taxes by province

	Values of homes (G1)	Property taxes (G2)	Ratio (G2/G1)
	%		
Newfoundland and Labrador	0.333	0.403	1.21
Prince Edward Island	0.286	0.388	1.36
Nova Scotia	0.299	0.412	1.38
New Brunswick	0.278	0.363	1.31
Quebec	0.288	0.326	1.13
Ontario	0.281	0.308	1.10
Manitoba	0.280	0.364	1.30
Saskatchewan	0.340	0.397	1.17
Alberta	0.276	0.379	1.38
British Columbia	0.324	0.352	1.09

Source: Survey of Financial Security, 1999

# In the works

*Some of the topics in upcoming issues*

---

## ■ Family wealth

How did family wealth change between 1984 and 1999—a period when the Canadian economy bloomed? Who gained and who lost the most wealth?

## ■ High-tech redux

At its peak in the first quarter of 2001, the computer and telecommunications (CT) industry employed 650 thousand people. A year later, there were 585 thousand. But what has happened since then? How has the high-tech workforce changed since March 2002?

## ■ Seniors at work

Interesting trends are starting to emerge among the oldest workers in the labour market. This article updates last year's popular study on working seniors using data from the 2001 Census.

## ■ Minimum wage

Even though the minimum wage increased in all provinces between 1997 and 2002, the number of minimum wage workers declined. Youths living with their parents were the only group to see a significant increase in minimum wage work. Other 'high-risk' groups such as single parents with children were less likely to be working for minimum wage.

## ■ Following in a parent's footsteps

How common is it for children to follow a parent into a similar line of work?

## ■ C/QPP primer

Answers to frequently asked questions about the Canada and Quebec Pension Plans.

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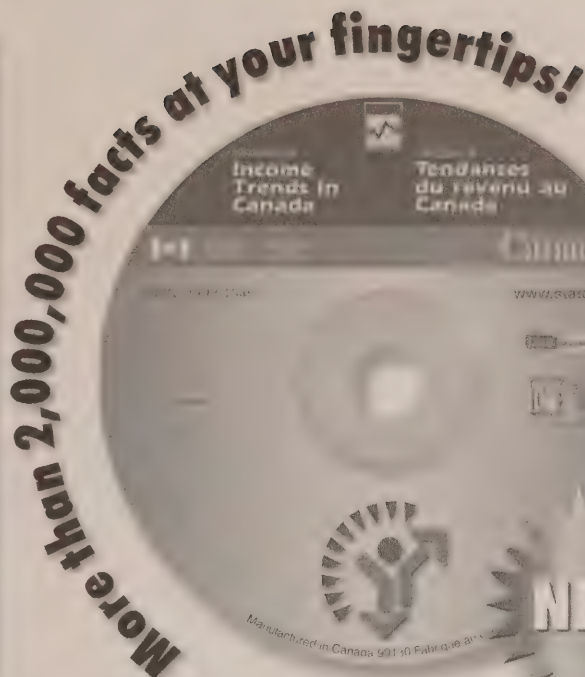


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**WINTER 2003**

Vol. 15, No. 4

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- HIGH-TECH—TWO YEARS LATER
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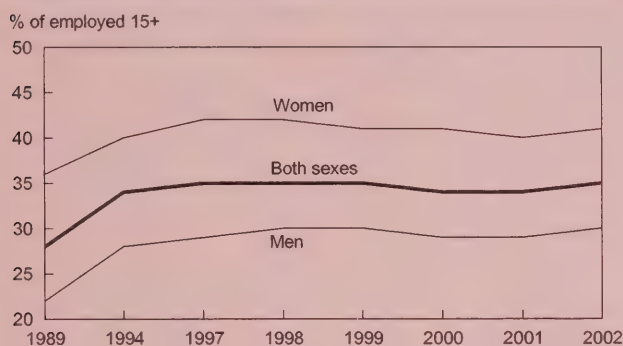
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# Erratum

## *Perspectives on Labour and Income , Winter 2003* (Catalogue no. 75-001-XPE) Vol. 15, No. 4

In “Precarious jobs: A new typology of employment,” the Y-axis on Charts A to D (pages 41 and 45) was cut off. The corrected charts are shown below.

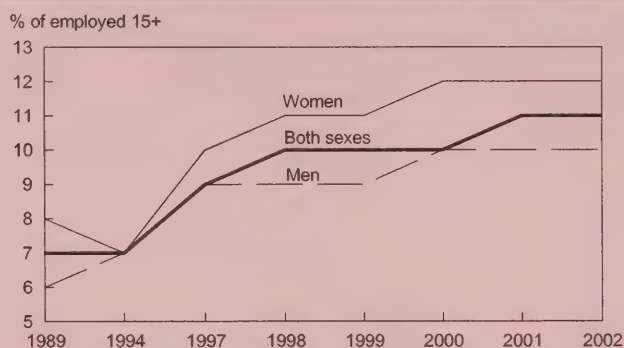
**Chart A: Employed with non-standard employment relationship\***



Sources: General Social Survey, 1989 and 1994; Labour Force Survey, 1997 to 2002

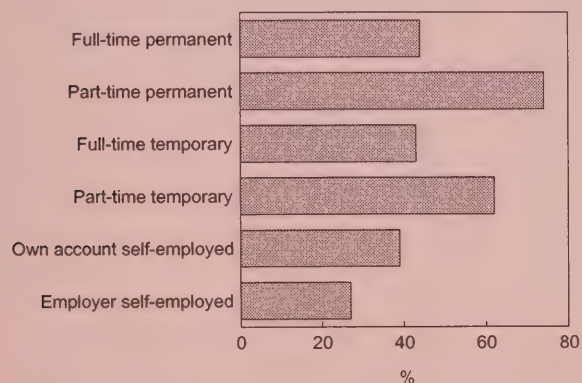
\* One or more of part-time work, temporary work, own-account self-employment, or multiple jobholding.

**Chart B: Employed with contingent or temporary employment relationship**



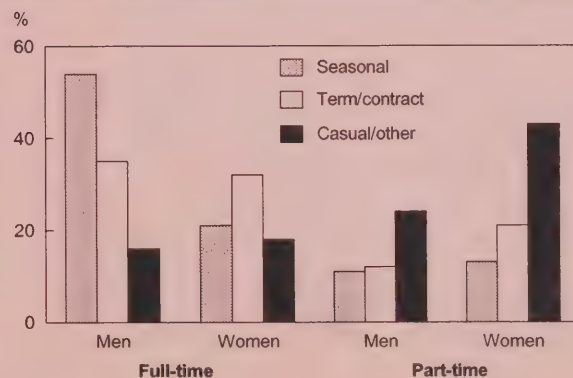
Sources: General Social Survey, 1989 and 1994; Labour Force Survey, 1997 to 2002

**Chart C: Women's share of forms of employment by full- and part-time status**



Source: Labour Force Survey, 2002

**Chart D: Types of temporary work**



Source: Labour Force Survey, 2002





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ON LABOUR AND INCOME

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## ■ Articles

### 5 Family wealth across the generations

*Raj Chawla and Henry Pold*

In the absence of longitudinal data, changes in family wealth can be estimated using cohorts of 'similar' families from two points in time. This method shows that between 1984 and 1999, mean family wealth rose for families with a major income recipient under 45 in 1984 and dropped for those with one aged 45 to 54.

### 17 Finances in the golden years

*Cara Williams*

While income is an important indicator of financial well-being, wealth can be equally important—particularly in the case of seniors. What are their sources of income and wealth? What about their debts and preparedness for unexpected expenses?

### 27 High-tech—two years after the boom

*Geoff Bowlby*

With a collapse in demand in 2001 for their products and services, the high-tech sector experienced a number of high-profile layoffs. After the layoffs began to subside a year later, the woes of the high-tech sector no longer made headlines. But what happened after March 2002?

### 31 Seasonal work and Employment Insurance use

*Shawn de Raaf, Costa Kapsalis and Carole Vincent*

Despite their overall decline, seasonal jobs are still important in many regions. However, distinguishing seasonal workers from seasonal jobs has been problematic. In this article, the many dimensions of seasonality are examined to determine the extent to which each contributes to frequent reliance on EI benefits. Although most seasonal workers regularly rely on Employment Insurance, almost one-fifth never claim.

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## 39 Precarious jobs: A new typology of employment

*Leah F. Vosko, Nancy Zukewich and Cynthia Cranford*

Many Canadians are in employment situations that differ from the traditional model of a stable, full-time job: one in which a person works for only one employer, is employed full year, full time on the employer's premises, has extensive benefits and entitlements, and expects to be employed indefinitely. Work that differs from the standard is described in several different ways, 'non-standard' and 'contingent' being two commonly used terms. In recent years, 'precarious employment' has come into use.

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# Highlights

*In this issue*

## ■ Family wealth across the generations

... p. 5

- In 1999, families whose major income recipient was born in the 1940s had the highest mean wealth (\$291,600); those with one born in the 1960s had the lowest (\$110,900). This is consistent with the well-known pattern of wealth being low for younger families and peaking in the pre-retirement years.
- Between 1984 and 1999, total wealth declined for families with a major income recipient born before 1930.
- During the same period, the proportion of families with \$500,000 or more in net worth doubled, but their share of wealth increased only 40%.
- Even though some generations of families saw their wealth increase more than others, overall wealth inequality was static. Home equity helped to reduce wealth inequality.

## ■ Finances in the golden years ... p. 17

- In 1999, the net worth of senior families was more than double that of non-senior families (\$155,000 versus \$69,000).
- The median value of financial assets for senior families was more than twice that for non-senior families—\$35,000 versus \$14,000. The largest non-financial asset for senior families was their home—a median value of \$120,000.
- Few seniors have debts—only 27% of senior families had debt in 1999. Of these, 82% were comfortable with their level of debt.

- Two-thirds of senior families have private pension assets. In 1999, the median value of these assets was \$115,700.

- For almost one-half (46%) of senior families, income exceeded expenses, indicating that some type of savings continues after the traditional age of retirement.

- About 1 in 10 senior families had expenses greater than their income. However, 90% of these families were able to pay their bills on time.

## ■ High-tech—two years after the boom

... p. 27

- After a sharp decline of 10% in 2001, employment in computer and telecommunications (CT) industries stabilized somewhat in 2002 and into 2003. In the first quarter of 2003, it was 570,000, down 3% from a year earlier and 12% below its 2001 peak.
- After shedding one in four workers between the first quarters of 2001 and 2002, the manufacturing part of the CT sector was essentially unchanged a year later. In the services component, a large drop in telecommunications employment was almost offset by a rebound in computer design and related services.
- While demand for high-tech workers decreased, median wage rates for employees did not fall, in part because of the continued layoff of lower-skilled, lower-paid workers.

## ■ Seasonal work and Employment Insurance use ... p. 31

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- Using a 'mechanical' definition of seasonal work, 4.4% of employees and self-employed fishers were seasonal workers over the 1993-1998 period.
- More than one-sixth (17.3%) of long-term seasonal workers did not receive EI benefits following any of three seasonal job spells. In total, about 61% of seasonal jobs were followed by EI.
- Long-term seasonal workers were more likely to be older, male, less educated, living in regions with high unemployment rates, living with a partner, and living in the Atlantic provinces or Quebec.

## ■ Precarious jobs: A new typology of employment ... p. 39

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- Between 1989 and 1994, the share of the workforce aged 15 and over engaged in part-time work, temporary work, own-account self-employment, or multiple jobholding grew from 28% to 34%. Since then, it has hovered around this level.
- The rise in non-standard employment in the early 1990s was fuelled by increases in own-account self-employment and full-time temporary paid work. Although employees with full-time permanent jobs still accounted for the majority of employment, this kind of work became less common, dropping from 67% in 1989 to 64% in 1994 and 63% in 2002.
- In 2002, women accounted for over 6 in 10 of those with part-time temporary jobs or part-time self-employment (own-account or employers) and for nearly three-quarters of part-time permanent employees.

## ■ What's new? ... p. 51

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### ■ Just released

Self-employment and productivity growth in Canada and the U.S.  
Income of individuals  
Family income  
New country, new jobs  
A route to innovation  
Working hours in Canada and the U.S.  
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Technological change and the education premium  
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New forms of work organization

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### Perspectives

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# Family wealth across the generations

*Raj K. Chawla and Henry Pold*

FOR SOME, THE ACCUMULATION OF WEALTH is life's primary scorecard. For others, a cushion of savings and investments can help smooth out spikes and troughs in employment earnings or household expenditures. For most, building up sufficient assets to live comfortably in retirement is a cornerstone of family finances. Governments, too, support these goals by offering tax incentives for retirement and education savings, as well as exempting principal residences from capital gains tax.

Technically speaking, wealth is a stock—accumulated assets at a point in time—as opposed to a flow—regular earnings from a job, for example (Augustin and Sanga 2002). Lottery winnings and stock market bubbles aside, most wealth is accumulated over long periods by spending less than one earns and compounding investment returns on past savings. Over time, the vagaries of the economy can both help and hinder wealth accumulation, often with different effects for different types of families.

The period from 1984 to 1999 witnessed dramatic economic fluctuations, beginning with recovery from a recession in 1981-82 and including a plunge back into another in 1990-91. The 1981-82 recession was the more severe. Real gross domestic product (GDP) fell by 2.6%, unemployment rose to 11.0%, and the bank rate hit 17.93%. The 1990-91 recession, on the other hand, saw a GDP drop of 1.4%, unemployment of 10.3%, and a bank rate of 13.04% (Statistics Canada 2002). During recessionary periods, family incomes usually drop. The median pre-tax family income (in 1999 dollars) dropped by 3.7% during the 1981-82 recession and by 5.3% during the 1990-91 recession.<sup>1</sup>

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The business cycle and other economic developments during the 1984-1999 period obviously affected family incomes and wealth. Real pre-tax family income increased steadily from 1984 to 1989, reaching \$58,100. Mean incomes then dropped until 1997. In 1998, families recaptured their 1989 income level.<sup>2</sup> Meanwhile, unemployment plummeted from 11.3% in 1984 to 7.6% in 1999 and the bank rate from 11.31% to 4.92%. The steady drop in the bank rate may have encouraged more families to borrow for a home or to invest—total household credit increased from \$161 billion in 1984 to \$578 billion in 1999. Mortgages on owner-occupied homes accounted for almost three-quarters of the increase. House prices rose dramatically as the new housing price index (1992=100) jumped from 67.8 in 1984 to 101.0 in 1999.

A steadily improving economy also provided an impetus to invest in stocks. The volume of shares traded on the Toronto Stock Exchange jumped from 2.1 billion in 1984 to 29.3 billion in 1999; the price-earnings ratio peaked at 88.51 in 1993. Furthermore, to encourage saving for retirement and children's postsecondary education, amounts eligible for tax sheltering increased—from \$7,500 in 1990 to \$15,500 by 2005 for registered retirement savings plans (RRSPs), and \$4,000 per year to a maximum of \$42,000 (supplemented with a maximum yearly grant of \$400 from the federal government) for registered education savings plans (RESPs).<sup>3</sup>

Not all families benefited equally. Among those who gained or lost, which asset and debt components were affected? How did the overall family balance sheet change? Did the overall distribution of wealth become more or less equal? To answer such questions, two approaches are possible. One is to compare wealth and its components by using 'similar' families from the 1984 and 1999 surveys (see *Data sources and definitions*). Groups can be defined by age or education of the major income recipient, type of family, or other characteristics of interest. The fundamental problem



## Data sources and definitions

The analysis is based on two separate surveys that collected information on incomes, assets and debts: the **Survey of Consumer Finances (SCF)**, conducted in May 1984, and the **Survey of Financial Security (SFS)**, conducted between May and July 1999. Each survey collected information on family demographics, assets and debts at the time of the survey, and income during the preceding calendar year. Each survey covered private households across the 10 provinces. Excluded were persons living on Indian reserves, members of the armed forces, and those living in institutions such as prisons, hospitals, and homes for seniors.

The 1984 SCF was strictly a regular area sample whereas the 1999 SFS was supplemented by a small sample of 'high-income' households with a view to improving wealth estimates at the upper end of the income distribution. Financial data were sought from the family member most knowledgeable about the family's finances. Besides the difference in samples, the two surveys varied somewhat in terms of non data-related issues such as the unit of data collection, and in questionnaire content, which affected the conceptual comparability of financial data (for details, see Chawla 2003).

The SFS was much more comprehensive than the SCF.<sup>4</sup> It asked not only about types of assets and debts not covered in 1984 but also coverage under employer pension plans in order to estimate wealth held in such plans. For the current analysis, comparable concepts of wealth were used.

The SCF data were re-weighted using the SFS weighting procedure, and all 1984 financial data were converted to 1999 dollars. For this study, the sample sizes were 13,237 families and unattached individuals in 1999 and 14,029 in 1984.

**Family** refers to economic families and unattached individuals. An economic family is a group of persons sharing a common dwelling and related by blood, marriage, common law, or adoption. An unattached individual lives alone or with unrelated persons.

The **major income recipient** is the person in the family with the highest income before tax. If two persons had exactly the same income, the older one was selected.

**Pre-tax family income** is the sum of incomes from all sources received during the calendar year by family members aged 15 and over. Sources include wages and salaries, net income from self-employment, investment income, government transfers, retirement pension income, and alimony. Excluded are income in kind, tax refunds, and inheritances.

**Liquid assets** are deposits held in chequing and savings accounts, fixed term deposits, guaranteed investment certificates, Canada Savings Bonds (including accrued interest), and other bonds.

**Registered savings** comprise registered retirement savings, registered homeownership savings, registered education savings, and deferred profit-sharing plans.

**Other financial assets** are mortgages held, loans to other persons and businesses, and other financial and miscellaneous assets.

**Total financial assets** are the sum of liquid assets, registered savings, the value of stocks and mutual funds, and other financial assets.

**Total non-financial assets** are the sum of the market value of the owner-occupied home, business equity, market value of vehicles (including recreational) owned, and other non-financial assets including all real estate other than the home.

**Business equity** is the market value of business assets less the book value of debt outstanding.

**Total debt** comprises mortgage debt on the home, student loans, and all other debt.

**All other debt** is the amount owed on credit cards, installment debt, loans on vehicles and household goods, loans from financial institutions (including home equity and other lines of credit), mortgages on real estate other than the home, and other unpaid bills.

**Wealth** is total assets minus total debt. It is based on marketable assets that are in direct control of families. It does not include the accrued value of savings held in employer pension plans or future claims on publicly funded income security programs. Nor does it include any potential returns on human capital (employment income or ability to generate investment income).<sup>5</sup>

**Mean wealth** is aggregate wealth divided by the total number of families. (Since means and other estimates of wealth are compiled from household surveys, these are subject to both sampling and non-sampling errors.)

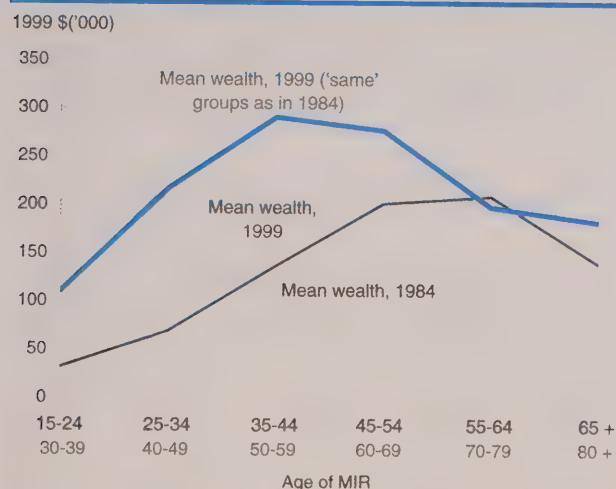
**Median wealth** is the value at which half the families have lower values and half have higher. Unlike the mean, the median is not affected by extreme values.

The **Gini coefficient** is a measure of inequality in a distribution. It lies between 0 (no inequality) and one (total inequality). Thus, the closer the Gini coefficient is to 1.0, the greater the inequality in the distribution.

The **coefficient of skewness** measures the asymmetry in a distribution; the larger the value, the more asymmetric the distribution. The coefficient is zero for a symmetric distribution.

with this approach is that one would be comparing different families at different times (embodying the effects of demographic and economic trends). The only thing in common would be the classification characteristic and that, too, 15 years apart. Using age of the major income recipient, for example, the age-wealth profiles of families in 1984 and 1999 were similar (Chart A). In both years, wealth increased with age, reaching its peak during the pre-retirement years (the 55 to 64 age group) and then declining. The only observable difference was that 1999 mean wealth was equal or higher than in 1984.

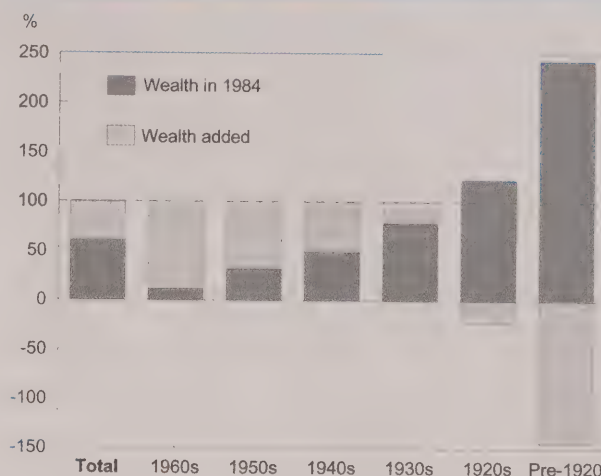
**Chart A: Family wealth peaks in the pre-retirement years of the major income recipient.**



Sources: Survey of Consumer Finances, 1984; Survey of Financial Security, 1999

Another approach is to use cohorts based on the age of the major income recipient (see *Family cohorts*). This method shows that over the 1984-1999 period, mean family wealth rose for families with a major income recipient under 45 in 1984 and dropped for those with one aged 45 to 54. The wealth held by each cohort in 1999 was its wealth in 1984 plus that added over the next 15 years. Not surprisingly, new wealth as a proportion of total wealth in 1999 decreased from the 1960s cohort to the 1930s cohort—from 89% to just 21% (Chart B). The 1920s and pre-1920 cohorts lost wealth over the period.

**Chart B: Between 1984 and 1999, family wealth declined for the two oldest cohorts.\***



Sources: Survey of Consumer Finances, 1984; Survey of Financial Security, 1999

\* Cohorts based on age of major income recipient in 1984.

## Asset and debt changes

### 1960s cohort

In 1984, this cohort of young families, nearly half of them unattached individuals and only one-fifth living in an owned home, had total wealth of \$31 billion (Table 1). By 1999, 61% were living as two-spouse families, and 60% owned a home (Table 2).<sup>7</sup> Their mean income had increased from \$28,000 to \$54,300, so more were also able to save—the proportion with RRSP or RESP holdings jumped from 12% to 67%. Families in this cohort also expanded their portfolios into non-registered investments as the proportion with business interests rose by 16 percentage points and the proportion with stocks and mutual funds by 17 points. These three assets plus home equity accounted for 86% of their newly amassed wealth of \$243 billion; home equity alone accounted for 35%. While this group accounted for 56% of new non-financial assets over the 1984-1999 period, they were responsible for just 18% of new financial assets.

### 1950s cohort

Families in this cohort added the most new wealth—\$372 billion. Their mean income rose from \$45,300 to \$63,700. More owned a home (up 26 percentage points) or a business (up 13 points), and had



## Family cohorts

To study changes in family wealth over time, the ideal source would be a longitudinal survey. However, using two surveys conducted at different times allows the creation of groups of families—cohorts—sharing a common characteristic. The usual classifying characteristic is the age of a person—in this study, the major income recipient—at the time of the 1984 survey. While other characteristics such as the type of family, area of residence, or income level may change over time and contaminate the concept of a cohort, a person's age is least volatile and easy to use.

To avoid the problem of a family of two or more changing over time into two or more unattached individuals or vice versa, families and unattached individuals are used collectively as a unit of analysis. Given the range of age groups, the major income recipient may have changed, especially if one spouse retired and the other continued to work. Families with a major income recipient who was under 30 or who immigrated to Canada after 1984 were excluded from the 1999 data (accounting for 21% of families in 1999 and 6% of the wealth).<sup>6</sup> No adjustment was made for emigrants who left after June 1984, or for those who may have been temporarily away between 1984 and

### Cohorts were created as follows:

	Age of major income recipient	
	in 1984	in 1999
1960s cohort	15 to 24	30 to 39
1950s cohort	25 to 34	40 to 49
1940s cohort	35 to 44	50 to 59
1930s cohort	45 to 54	60 to 69
1920s cohort	55 to 64	70 to 79
Pre-1920 cohort	65 and over	80 and over

April 1999. By 1999, the 1960s cohort may have included families whose major income recipient was treated in 1984 as a child aged 15 or over or other family member. Since the likelihood of marrying, separating, divorcing or living alone is very high among those under 40, findings for the 1960s cohort should be interpreted with caution.

**Table 1: Income and wealth (1999 \$) of families by cohort**

	Total	1960s	1950s	1940s	1930s	1920s	Pre-1920
<b>1984</b>							
Families ('000)	9,500	1,000	2,500	1,900	1,400	1,200	1,500
Total income (\$ millions)	435,800	27,000	111,800	111,100	85,500	61,800	38,600
Total wealth (\$ millions)	1,224,200	31,200	172,600	263,400	282,500	262,500	212,000
				%			
Families	100.0	10.2	26.0	20.2	14.7	13.1	15.9
Total income	100.0	6.2	25.7	25.5	19.6	14.2	8.9
Total wealth	100.0	2.5	14.1	21.5	23.1	21.4	17.3
Mean income (\$)	45,900	28,000	45,300	58,000	61,200	49,500	25,600
Mean wealth (\$)	128,900	32,300	69,900	137,600	202,400	210,300	140,700
Mean wealth/income ratio	2.81	1.15	1.54	2.37	3.31	4.25	5.49
<b>1999</b>							
Families ('000)	9,700	2,500	2,500	1,800	1,300	1,100	500
Total income (\$ millions)	519,900	134,400	159,400	119,500	54,900	38,800	12,900
Total wealth (\$ millions)	2,015,600	274,400	544,400	536,300	359,300	214,200	87,000
				%			
Families	100.0	25.6	25.9	19.0	13.4	11.1	4.9
Total income	100.0	25.9	30.7	23.0	10.6	7.5	2.5
Total wealth	100.0	13.6	27.0	26.6	17.8	10.6	4.3
Mean income (\$)	53,800	54,300	63,700	65,000	42,500	36,100	27,300
Mean wealth (\$)	208,700	110,900	217,600	291,600	278,000	199,000	183,600
Mean wealth/income ratio	3.88	2.04	3.42	4.49	6.55	5.52	6.72
				%			
Total income	100.0	127.7	56.5	10.0	-36.4	-27.3	-30.5
Total wealth	100.0	30.7	47.0	34.5	9.7	-6.1	-15.8

Sources: Survey of Consumer Finances, 1984; Survey of Financial Security, 1999



**Table 2: Selected characteristics of families by cohort**

	Total	1960s	1950s	1940s	1930s	1920s	Pre-1920
<b>1984</b>							
<b>Homeowner</b>							
No	42.1	79.4	53.7	31.6	26.2	26.4	40.2
Yes, no mortgage	29.4	9.4	11.5	22.0	36.3	52.7	55.3
Yes, with mortgage	28.5	11.2	34.8	46.4	37.4	20.9	4.5
<b>Family type</b>							
Unattached individual	28.3	48.4	26.8	15.0	15.0	24.8	50.2
Two-spouse	60.6	36.3	62.2	73.3	74.1	68.1	38.7
Lone-parent	4.5	6.5	6.3	7.4	4.1	0.8	0.0
Other	6.6	8.9	4.7	4.4	6.7	6.3	11.1
<b>Business interests</b>							
Yes	14.2	6.9	13.9	19.3	19.6	16.1	6.0
No	85.8	93.1	86.1	80.7	80.4	83.9	94.0
<b>Registered savings plan</b>							
Yes	30.0	12.2	28.4	34.8	44.1	43.7	13.7
No	70.0	87.8	71.6	65.2	55.9	56.3	86.3
<b>Stocks/mutual funds</b>							
Yes	13.3	4.8	11.4	14.3	18.1	18.2	12.4
No	86.7	95.2	88.6	85.7	81.9	81.8	87.6
<b>1999</b>							
<b>Homeowner</b>							
No	31.3	39.9	28.1	24.9	25.9	31.6	42.2
Yes, no mortgage	33.8	10.2	24.3	38.1	59.0	62.7	55.8
Yes, with mortgage	34.9	49.9	47.6	37.0	15.2	5.7	2.0
<b>Family type</b>							
Unattached individual	29.4	24.1	21.1	24.8	35.2	46.8	63.1
Two-spouse	59.0	61.4	65.5	66.3	55.8	43.2	27.9
Lone-parent	4.8	9.7	7.4	2.4	0.0	0.0	0.0
Other	6.8	4.8	6.1	6.6	9.0	10.0	9.0
<b>Business interests</b>							
Yes	20.3	22.5	26.7	26.3	13.6	5.9	3.5
No	79.7	77.5	73.3	73.7	86.4	94.1	96.5
<b>Registered savings plan</b>							
Yes	58.8	67.4	72.3	71.9	58.7	9.8	3.3
No	41.2	32.6	27.7	28.1	41.3	90.2	96.7
<b>Stocks/mutual funds</b>							
Yes	23.0	21.5	23.5	27.5	24.9	18.5	16.1
No	77.0	78.5	76.5	72.5	75.1	81.5	83.9

Sources: Survey of Consumer Finances, 1984; Survey of Financial Security, 1999

savings in registered plans (up 44 points), or stocks and mutual funds (up 12 points). These four assets contributed 90% of the wealth amassed by this cohort between 1984 and 1999; home equity alone accounted for 33%. These families possessed 57% of the total new non-financial assets and 31% of financial assets.

#### 1940s cohort

Mean family income in this cohort rose marginally, from \$58,000 in 1984 to \$65,000 in 1999. The rate of homeownership increased only 7 percentage points,

as did business ownership. On the other hand, registered savings jumped 37 points, and stocks and mutual funds 13 points. Nearly 10% of homeownership families had discharged their mortgage, with the released funds likely saved in registered plans as well as stocks and mutual funds, which accounted for 55% of the new wealth for this cohort. This cohort owned more of the new financial assets (36%) than non-financial assets (23%). Of the added value of stocks and mutual funds between 1984 and 1999, these families accounted for 30%.

### 1930s cohort

Because many major income recipients in this cohort would have retired by 1999, mean family income fell from \$61,200 to \$42,500. The proportion living in mortgage-free homes went up 23 percentage points, and a small proportion had wrapped up their business activities. Some business equity was likely converted into financial assets. Registered savings plans, and stocks and mutual funds accounted for 125% of the total added wealth for this cohort.<sup>8</sup> One-fifth of the total additional value of stocks and mutual funds belonged to this cohort.

### 1920s cohort

Most families in this cohort had likely experienced the retirement of their major income recipient. Their mean family income dropped from \$49,500 in 1984 to \$36,100 in 1999, and mean wealth from \$210,300 to \$199,000. Some of the loss could be attributed to demographic change, since a portion of two-spouse families became unattached individuals (likely with the death of a spouse), and homeownership dropped by 5 percentage points. The proportion of families with no mortgage went up 10 points, and business activity dropped 10 points. Overall, the group lost \$48 billion from its 1984 wealth, largely because of drops in business equity and registered savings plans.<sup>9</sup> On the other hand, they added \$20 billion to their stock and mutual fund holdings—some 12% of the total additional value. Families in this cohort accounted for 26% of the drop in liquid assets over the 1984-1999 period.

### Before 1920 cohort

Examining this cohort's change in wealth is tantamount to looking at the change in the wealth situation of families considered elderly in 1984. Even though their mean income moved up marginally from \$25,600 in 1984 to \$27,300 in 1999 (largely because of indexed government transfer payments) and mean wealth from \$140,700 to \$183,600, their aggregate wealth fell \$125 billion.<sup>10</sup> Most of the loss in wealth (which excludes \$4 billion held in annuity plans) reflected declines in home and business equity and financial assets (except stock and mutual fund holdings, which gained \$5 billion). With aging, families tend to wrap up business activities. Some sell their home (either because of poor health or a lack of resources to maintain a home) and move into rental accommodation (40% in this cohort were renting in 1984 and 42% in 1999). Over time, this cohort also went through demographic changes as two-spouse families declined and unattached individuals increased (from 50% to 63%).

### Wealth of 1984 cohorts in 1999

Although income and wealth are strongly associated, they do not necessarily move in the same direction for all families over time. For example, a family's income may drop in retirement, but its wealth may still increase because of a rising market value for their home. This may, in turn, result in a higher wealth-to-income ratio—an indicator of economic well-being. For each dollar of income, the pre-1920 cohort had \$5.49 of wealth in 1984, rising to \$6.72 by 1999. For the 1960s cohort, on the other hand, the wealth-to-income ratio moved from \$1.15 to \$2.04. The 1930s cohort had the largest increase—from \$3.31 to \$6.55. On the basis of the wealth-to-income ratio, the 1930s cohort appears to have fared the best.

The 1940s cohort had the highest mean wealth (\$291,600) in 1999, the 1960s cohort had the lowest (\$110,900). This pattern is consistent with the well-known relationship between wealth and life cycle—wealth is low for younger families and peaks in the pre-retirement years when major income recipients are in their late 50s or early 60s. Mean wealth in 1984 was highest for families in the 1920s cohort (\$210,300) and lowest for those in the 1960s cohort (\$32,300). Despite all the changes in asset holdings and demographics, the range in mean family wealth from the 1960s cohort to the pre-1920 cohort did not change much—\$178,000 in 1984 compared with \$180,600 in 1999.

Over the 1984-1999 period, the 1940s cohort made the greatest absolute gain (\$153,900) in mean wealth, whereas the 1960s cohort gained the most in relative terms—244%. The sources of change in wealth differed between the various cohorts. For the 1960s cohort, most (71%) of the change arose from the rates of ownership of assets and debts, whereas for the 1930s cohort, it came from the amounts (86%) within asset and debt categories. These differences confirm that the process of building wealth by solidifying assets and reducing liabilities is much stronger during pre-retirement years.

### Family balance sheets

The overall mix of wealth held by families changes as the major income recipient approaches retirement. The 1940s cohort had 66 cents of every dollar of assets in 1999 in non-financial assets (such as a home, vehicles or business equity) and 34 cents in financial assets, compared with 86 cents and 14 cents in 1984.

For the 1960s cohort, non-financial assets constituted 84% of assets in 1984, which dropped to 79% by 1999. For the oldest cohort, the corresponding proportions were 65% and 53%. In fact, the pattern seems to be universal: As a family ages, non-financial assets drop as a proportion of total assets, and financial assets push steadily upward (Table 3).

For all cohorts, market value of an owner-occupied home was the major non-financial asset, becoming more valuable over time. Business equity was the second most important, but its representation in total asset holdings fell in all cohorts; the greatest drop, 16 percentage points, was experienced by the 1930s cohort. With the recession and economic recovery

between 1984 and 1999, some families in this cohort wrapped up their businesses (the ownership rate fell from 20% to 14%) and likely converted part or all of the equity into financial assets. A similar pattern prevailed for the 1920s cohort.

The composition of financial assets also varied by cohort. For example, over the 1984-1999 period, the share of liquid assets declined for the 1960s cohort, while registered savings plans and stocks and mutual funds increased. In the 1920s and pre-1920 cohorts both liquid assets and registered savings declined as stocks and mutual funds increased.<sup>11</sup> For example, while stocks and mutual funds accounted for only 10% of the financial assets of the elderly in 1984, they

**Table 3: Family balance sheet by cohort**

	Total	1960s	1950s	1940s	1930s	1920s	Pre-1920
<b>1984</b>				\$			
<b>Assets</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>
<b>Financial</b>	21.10	15.60	14.80	14.40	19.00	26.70	35.40
Liquid assets	12.80	12.20	8.20	7.40	10.40	15.50	26.50
Registered savings	4.00	2.10	2.80	3.40	5.10	5.80	2.50
Stocks/mutual funds	2.20	0.40	1.70	1.50	1.80	3.10	3.50
Other	2.10	0.90	2.00	2.20	1.80	2.30	2.90
<b>Non-financial</b>	78.90	84.40	85.20	85.60	81.00	73.30	64.60
Value of home	42.30	43.70	47.90	46.80	40.40	37.50	37.50
Business equity	21.10	18.90	19.80	22.80	24.50	20.00	16.70
Value of vehicles	5.60	13.50	8.00	5.80	5.00	4.30	3.20
Other	10.00	8.30	9.50	10.20	11.00	11.50	7.20
<b>Debts</b>	<b>14.40</b>	<b>24.40</b>	<b>29.70</b>	<b>20.90</b>	<b>11.00</b>	<b>5.80</b>	<b>1.60</b>
Mortgage on home	8.50	11.90	18.80	12.90	6.10	2.60	0.70
Student loans	0.20	1.50	0.40	0.10	0.10	0.10	0.00
Other	5.70	11.00	10.40	7.90	4.80	3.00	0.90
<b>Wealth</b>	<b>85.60</b>	<b>75.60</b>	<b>70.30</b>	<b>79.10</b>	<b>89.00</b>	<b>94.20</b>	<b>98.40</b>
<b>1999</b>							
<b>Assets</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>
<b>Financial</b>	31.10	21.30	25.50	33.80	41.30	35.10	46.90
Liquid assets	7.40	3.80	3.80	5.20	9.10	18.80	30.10
Registered savings	14.20	12.40	14.00	17.90	20.40	2.50	1.00
Stocks/mutual funds	8.50	4.30	7.00	9.30	10.40	13.00	14.80
Other	1.00	0.80	0.70	1.30	1.50	1.00	1.00
<b>Non-financial</b>	68.90	78.70	74.50	66.20	58.70	64.90	53.10
Value of home	41.20	48.50	41.30	37.10	37.00	45.70	42.90
Business equity	13.90	15.80	19.50	14.30	8.20	6.10	2.30
Value of vehicles	4.60	6.10	4.80	4.30	3.70	4.20	2.10
Other	9.20	8.40	8.90	10.50	9.70	8.90	5.90
<b>Debts</b>	<b>15.50</b>	<b>33.00</b>	<b>19.20</b>	<b>12.40</b>	<b>6.00</b>	<b>2.50</b>	<b>0.90</b>
Mortgage on home	10.20	24.30	12.50	7.20	3.00	1.20	0.60
Student loans	0.30	0.70	0.40	0.20	0.10	0.00	0.00
Other	5.00	8.00	6.40	4.90	2.90	1.30	0.30
<b>Wealth</b>	<b>84.50</b>	<b>67.00</b>	<b>80.80</b>	<b>87.60</b>	<b>94.00</b>	<b>97.50</b>	<b>99.10</b>

Sources: Survey of Consumer Finances, 1984; Survey of Financial Security, 1999



jumped to 32% by 1999—a reflection of a booming stock market that encouraged investment in risk-bearing market equities. The proportion of holdings in stocks and mutual funds rose steadily across the four oldest cohorts—from between 1% and 3% in 1984 to between 9% and 15% in 1999.

An increase in the share of financial assets over a family's life cycle results not only from rising income but also from declining debts such as mortgages and other consumer loans. While the debt-to-asset ratio increased for the 1960s cohort—from 24% in 1984 to 33% in 1999—it declined for all older cohorts. Families in the 1950s cohort owed 30 cents for every dollar of assets in 1984, dropping to 19 cents in 1999. And debt was even less apparent among older cohorts—the 1920s cohort owed just 6 cents per dollar of assets in 1984, which they reduced to 3 cents over the 15-year period.

## Wealth distribution

By following specific cohorts over time, the expected pattern is an upward shift in the wealth distribution<sup>12</sup> countered only by some erosion of assets near the end of the life cycle. So, for example, the proportion of families in the 1960s cohort with wealth of less than \$50,000 (Table 4) fell from 85% in 1984 to 54% in 1999. Similarly, the proportion of the 1950s cohort with less than \$50,000 dropped from 65% to 36%. These families improved their financial situation as more bought homes and engaged in business interests, thereby moving into higher wealth groups. Such upward shifts were less pronounced for older cohorts—20 percentage points for the 1940s, 6 points for the 1930s, and 9 points for the pre-1920. On the other hand, the 1920s cohort—the richest in 1984—witnessed shifts into the under \$50,000 category and out of the \$500,000 or more group.

This upward shift in the proportion of families with relatively high levels of wealth, with the exception of the 1920s cohort, corresponds to an increasing share of the wealth holding for families with wealth of \$500,000 or more (see *Millionaire families*). Overall, the proportion of families with \$500,000 or more in net wealth doubled between 1984 and 1999, while their share of wealth increased by almost 40%.

## Distribution of wealth became more skewed

Since wealth accumulation moves families into higher wealth categories over time, the distribution of wealth may indeed become more concentrated among the

### Millionaire families

Of the nine million families in 1984, only 121,000 (1%) were worth one million dollars or more, accounting for 19% of total wealth. By 1999 their ranks had swollen to 252,000 (3%) and they accounted for 30% of wealth. (The net addition occurs after adjusting for 9,000 families in the 1920s and pre-1920 cohorts that were millionaires in 1984 but not in 1999). Almost half (47%) of the additional millionaire families were in the 1940s cohort. Overall, almost one-third (32%) of millionaire families in 1984 had a major income recipient aged between 45 and 54. A similar proportion (34%) had one aged between 50 and 59 in 1999. It would seem that a family is more likely to be worth a million dollars or more when the major income recipient is aged mid-40s to late 50s.

richer members of a cohort. This results in a positive coefficient of skewness—the greater the coefficient, the more skewed the distribution. Similarly, one might expect a higher degree of skewness in older cohorts compared with younger cohorts at a point in time.

In 1984, the distribution was most skewed for elderly families (pre-1920 cohort) and least for young families (1960s cohort). This conforms to expectations, as do increases in skewness within the four younger cohorts over time. However, skewness dropped in the two oldest cohorts—quite dramatically in the pre-1920 cohort—indicating some countering influences later in the life cycle. As a result of these changes, there was no clear trend in skewness across age groups in 1999, the most prominent feature being a spike in skewness for the 1950s cohort.

Another characteristic of a right-tailed skewed distribution is that its median value is always less than its mean (which is affected by the extreme values). The median will move up if families move from lower to higher wealth groups over time. For the 1960s cohort, for instance, median wealth jumped from \$3,100 in 1984 to \$40,500 in 1999—a growth of 1,200%. Unattached individuals forming two-spouse families and increased home and business ownership were responsible for the gains. On the other hand, the median wealth of other cohorts (except the 1920s cohort) increased between 280% (1950s cohort) and 25% (1930s cohort). The median wealth in the 1920s cohort fell from \$129,100 in 1984 to \$125,000 in 1999 (-3%) as some families moved from an owned home to rental accommodation, wrapped up business interests, or liquidated some financial assets as the major income recipient, who was 55 to 64 in 1984, aged.

**Table 4: Wealth distribution by cohort**

	Total	1960s	1950s	1940s	1930s	1920s	Pre-1920
<b>1984</b>							
	Families (%)						
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Under \$50,000	46.8	84.5	65.0	39.4	28.5	24.7	37.3
\$50,000 - \$99,999	16.9	7.2	15.9	21.4	15.8	16.9	20.3
\$100,000 - \$499,999	32.0	7.2	17.3	35.3	48.4	49.3	37.9
\$500,000 or more	4.3	1.0	1.8	3.9	7.3	9.1	4.5
Mean wealth (\$)	128,900	32,300	69,900	137,600	202,400	210,300	140,700
Median wealth (\$)	58,400	3,100	23,400	73,500	124,000	129,100	80,800
Coefficient of skewness	13.6	5.1	13.5	9.0	10.3	12.4	20.6
Gini coefficient:							
Total wealth	0.692	0.891	0.749	0.655	0.615	0.585	0.629
Total wealth less home equity	0.803	0.976	0.868	0.813	0.758	0.713	0.753
	Wealth (%)						
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Under \$50,000	4.0	14.1	10.4	3.7	1.8	1.6	3.6
\$50,000 - \$99,999	9.7	16.0	16.1	11.5	5.8	6.1	10.8
\$100,000 - \$499,999	50.9	47.7	46.9	51.5	51.4	51.0	53.3
\$500,000 or more	35.4	22.3	26.6	33.3	40.9	41.2	32.4
<b>1999</b>							
	Families (%)						
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Under \$50,000	36.7	53.7	36.4	27.2	26.3	28.6	33.6
\$50,000 - \$99,999	15.0	17.0	16.5	13.2	11.8	14.2	15.4
\$100,000 - \$499,999	39.7	25.8	39.4	45.3	48.9	50.1	43.0
\$500,000 or more	8.6	3.5	7.8	14.3	13.1	7.1	8.0
Mean wealth (\$)	208,700	110,900	217,600	291,600	278,000	199,000	183,600
Median wealth (\$)	93,000	40,500	89,000	142,800	154,700	125,000	102,500
Coefficient of skewness	17.5	13.1	19.5	11.8	13.3	10.5	4.7
Gini coefficient:							
Total wealth	0.686	0.740	0.702	0.651	0.628	0.597	0.620
Total wealth less home equity	0.803	0.855	0.827	0.764	0.753	0.751	0.731
	Wealth (%)						
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Under \$50,000	2.1	5.1	2.1	1.1	1.0	1.9	2.7
\$50,000 - \$99,999	5.3	11.0	5.6	3.4	3.1	5.3	6.1
\$100,000 - \$499,999	43.3	46.3	41.6	37.8	42.9	55.7	50.4
\$500,000 or more	49.3	37.6	50.7	57.8	53.0	37.2	40.7

Sources: Survey of Consumer Finances, 1984; Survey of Financial Security, 1999

**Wealth inequality decreased for some cohorts**

Wealth inequality decreased most for the 1960s cohort. These families, mostly renters with relatively low incomes and wealth in 1984, improved their wealth situation by purchasing homes and starting businesses. The Gini coefficient, a measure of inequality, fell by 17% for this cohort (from 0.891 in 1984 to 0.740 in 1999). Inequality also dropped substantially for the 1950s cohort (-6%), and marginally for those

born in the 1940s and before 1920. On the other hand, inequality increased among those born in the 1920s and 1930s. The former had much larger gains in financial assets, whereas the latter saw some families shifting from higher to lower wealth groups (likely because of moving to rental accommodation). As a result, overall inequality in the distribution of wealth dropped only marginally between 1984 and 1999, falling less than 1%, from 0.692 to 0.686.<sup>13</sup>



How does home equity affect wealth inequality—since such equity accounted for one-third of the total new wealth created by families between 1984 and 1999? For all cohorts, home equity reduced wealth inequality. In 1984, the reduction was smallest (-9%) in the 1960s cohort (largely because of the low rate of homeownership) and greatest (-19%) in the 1940s and 1930s cohorts. In 1999, the reduction was still smallest (-13%) in the 1960s cohort but it was greatest (-20%) in the 1920s cohort. Overall, the influence of home equity remained the same.

## Summary

In the absence of the longitudinal data, this study examined changes in family wealth using the 1984 Survey of Consumer Finances and the 1999 Survey of Financial Security. Families with a major income recipient born in the 1960s gained most of the new wealth created between 1984 and 1999, largely because of demographic changes, home purchases, and business formation. On the other hand, cohorts born earlier than 1930 lost a portion of the wealth they held in 1984 (net of any savings in RRIFs).

The home remained the major asset held by families in all cohorts, but the percentage distribution of family assets varied both between and within cohorts. Financial assets as a proportion of total assets grew and liability decreased as families grew older. The younger cohorts carried most of the debt liability—largely attributable to mortgages.

The 1984-1999 period witnessed significant growth in stock market activity and changes in provisions of various tax-sheltered savings plans. Families in the 1940s cohort benefited the most, followed by those in the 1950s cohort. These two cohorts held almost two-thirds of the total additional savings in registered plans, and more than half the additional value of stocks and mutual funds. However, the wealth-to-income ratio for the 1930s cohort rose the most.

Although the distribution of wealth became more skewed among the younger cohorts, wealth inequality remained almost unchanged; it decreased for the 1960s, 1950s, 1940s and pre-1920 cohorts and increased for the 1920s and 1930s. Home equity generally reduced wealth inequality, but its effect was most pronounced for families in the 1960s cohort and least for those in the 1950s cohort.

## ■ Notes

1 Not all families are equally affected by recessions. For instance, families with relatively higher incomes and savings can make economic gains by investing their savings at the prevailing higher interest rates. On the other hand, incomes of those with government transfers as their major income source are protected since these are adjusted by the rate of inflation.

2 Since the late 1990s, families have experienced gains in post-tax income because of tax reductions introduced by the federal and several provincial governments.

3 It is beyond the scope of this article to detail all the developments in taxation of income, lifetime capital gains and dividends; rising levels of tax-sheltered savings; creation and administration of different trusts; and provisions to facilitate homeownership—all aimed at helping families to create more wealth.

4 The Survey of Financial Security interview questionnaire, Catalogue no. 13F0026MIE-2001001, is available free on the Statistics Canada Web site at [www.statcan.ca/cgi-bin/downpub/research.cgi](http://www.statcan.ca/cgi-bin/downpub/research.cgi).

5 The more comprehensive concept of family wealth in the 1999 SFS includes savings in employer pension plans, registered retirement income funds, annuities, the value of contents of principal residence, and other collectibles and valuables. These five assets, excluded from the concept of wealth used in this paper, constituted 29% of 1999 family wealth (Chawla 2003, p. 23).

6 In 1984, there were 9,500,000 family units worth \$1.2 trillion; by 1999, there were 12,200,000 units with net worth of \$2.2 trillion. Some 1,800,000 families with a major income recipient aged 15 to 29 with wealth of \$67 billion, as well as 800,000 families with a major income recipient who had immigrated to Canada after 1984 with wealth of \$68 billion, were excluded from the 1999 data. The 9,700,000 families in 1999 represent only 1.7% more than the number of families in 1984. This difference between the two universes can be explained by the roundings/approximations used to bring the universes closer, as well as the dissolution of some two-spouse families in 1984 into lone-parent and unattached individuals by 1999.

7 During the 1984-1999 period, changes were introduced to facilitate homeownership among first-time home buyers. For example, individuals could withdraw from their RRSPs a maximum of \$20,000, which they had to pay back into the system in annual instalments over a 15-year period commencing with the second year following the withdrawal. Another change involved lowering down payments to 5% so



that a buyer could own a home by carrying mandatory mortgage loan insurance, which protects the lender but does not relieve the borrower of obligations under the mortgage contract.

8 Savings in registered retirement income funds (RRIFs) or other annuities providing a monthly or yearly cash flow have been excluded since these data were collected in 1999 but not in 1984. Of the total \$68 billion (\$64 billion in RRIFs), 25% was held by the 1930s cohort, 59% by the 1920s cohort, and 6% by the pre-1920 cohort. Since the largest share was held by families in the 1920s cohort, the change in their wealth without such savings should be interpreted with caution.

9 The amount in RRSPs had to be withdrawn after age 69 and used as income for consumption or investment or turned into RRIFs to draw annuity income. Since amounts held in RRIFs or other annuity plans have been excluded (to make family wealth comparable for the two surveys), the drop in savings held by this cohort in registered savings plans should be interpreted with some caution.

10 This situation would result if the proportionate drop in the number of families over time was more than the proportionate drop in aggregate wealth.

11 See note 9.

12 The change in the distribution of wealth by cohorts was studied in terms of four size groups of wealth (in constant 1999 dollars) rather than in terms of more conventional deciles/quintiles of families because the latter method would have used different thresholds of wealth for cohorts both within and between the time periods.

13 This conclusion is different than that drawn from these surveys by Morissette, Zhang and Drolet (2002). The difference is a result of the family universes used. Using a comparable concept of family wealth, Morissette, Zhang and Drolet used the full 1999 sample and calculated Gini coefficients for all families, excluding those in the top 1% and 5% of the wealth distribution. The exclusions from the 1999 sample of families with a major income recipient aged 15 to 29 or one who immigrated to Canada after 1984 resulted in a different Gini coefficient for 'all families' in 1999 (Table 4). This study does not calculate Gini coefficients on truncated samples.

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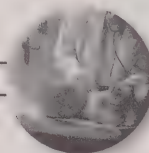
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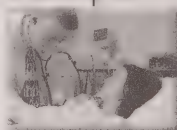
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# Finances in the golden years

Cara Williams

OVER MUCH OF THE 20TH CENTURY, a substantial amount of attention focused on the economic conditions of Canada's seniors (those aged 65 and over). In the past, many seniors had to work their whole life, and retirement was virtually unheard of. Those who were unable to save any money or to work because of illness and who had no family or friends to rely on spent their remaining years in poverty.

Economic conditions for today's seniors are very different. Since the early 1980s, incomes have risen faster for those 65 and over than for those under 65 (Lindsay and Almey 1999). In fact, between 1981 and 1997, income rose about 18% for seniors while declining for those aged 15 to 64. Nevertheless, seniors still have lower average incomes—not surprising given that most are no longer in the labour force and have no employment income.

However, the financial well-being of seniors is not determined by income alone; wealth also plays a part. While non-seniors are trying to build up their stock of wealth (buying homes, building up RRSPs or other investments), many seniors have already accumulated substantial wealth to draw on in times of need. This subject is certain to remain under close scrutiny as the proportion of seniors increases. Policy and program development centering on this group will no doubt figure prominently in forthcoming years, so it will be crucial to have a complete financial picture that highlights their needs.

Using the 1999 Survey of Financial Security (SFS) (see *Data source and definitions*), this article examines sources of income and wealth among Canada's seniors. It also looks at their debts and preparedness for unexpected expenses. Additionally, two groups of seniors that potentially face financial insecurity are examined: unattached women and those whose expenses exceed their income.

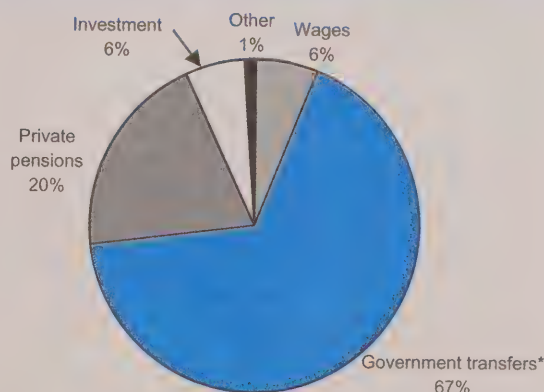
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## Government transfers the major source of income for most seniors

Particularly during RRSP season, Canadians hear that they must save for retirement and not rely on government to meet their income requirements in old age.<sup>1</sup> However, for the majority of today's seniors, government transfers are the principal source of income (Chart A).

In 1999, seniors had four main sources of income: government transfers, private pensions, investment income, and employment income. For two-thirds of senior families (67%), government transfers made up the largest portion of income. Private pensions were the principal source for another 20%, and employment income for another 6%. While almost half (49%) had some type of non-pension financial investments,<sup>2</sup> investment income was the main income source for only 6%. This is perhaps surprisingly low given the media attention paid to the importance of investing for future retirement income.

**Chart A: Most seniors rely on government transfers as their main source of income.**



Source: Survey of Financial Security, 1999  
\* C/QPP, OAS, GIS, and other transfers



## Data source and definitions

The **Survey of Financial Security (SFS)** was conducted from May to July 1999. The sample represented all families and individuals in Canada except residents of the Territories, members of households on Indian reserves, full-time members of the armed forces, and residents of institutions. Data were obtained for all family members aged 15 and over.

**Family unit:** economic family or unattached individual

**Economic family:** two or more persons living in the same dwelling and related by blood, marriage, common law or adoption. Types of senior economic families are based on the characteristics of the major income recipient who is 65 or older.

**Unattached individual:** person living alone or with unrelated persons.

**Total income:** income from all sources (including government transfers) before deduction of federal and provincial taxes. Total income is also known as income before taxes (but after transfers). It includes market income and government transfer payments.

**Employment income:** wages, salaries, and income from self-employment.

**Government transfers:** all direct payments to individuals and families by the federal, provincial and municipal governments: Old Age Security, the Guaranteed Income Supplement, Spouse's Allowance, Canada and Quebec Pension Plan benefits, Child Tax benefits, Employment Insurance benefits, workers' compensation benefits, credits for the goods and services tax or harmonized sales tax, provincial or territorial tax credits, social assistance payments, and other payments.

**Assets:** financial assets (registered retirement savings plans (RRSPs), other registered plans, deposits in financial institutions, mutual/investment funds, stocks, savings bonds and other bonds, and other financial assets) and non-financial assets (principal residence, other real estate, vehicles, other non-financial assets, and equity in a business). The net present value of employer-sponsored pension plans is not included.

**Debts:** mortgages, lines of credit, credit card balances, student loans, vehicle loans, and other debt.

**Net worth (wealth):** difference between total assets and total debts. Excluded are the value of work-related pension plans, and future entitlements to social security provided by the government in the form of Canada or Quebec Pension Plan benefits and Old Age Security. Also excluded is human capital, measured in terms of the value of the discounted flow of future earnings. Those with no net worth have debts equal to or greater than assets.

Bootstrap methods were used to calculate the standard errors and coefficients of variation for the SFS.

## How much income is enough?

Ensuring that seniors have enough income during retirement was an ongoing policy issue for most of the 20th century. But determining what constitutes an adequate income is difficult. For example, if seniors are no longer in the workforce, saving for retirement, paying for children, or making mortgage payments, is it reasonable to compare their income with that of non-seniors who may be trying to do all these things? At the same time, do seniors incur significant expenses that younger Canadians do not have? For example, private health care expenses probably increase with age. But on balance, some experts believe that seniors can have significantly lower incomes than non-seniors yet still maintain a similar standard of living (Hamilton 2001).

Various pension and income support programs have been developed and modified over the years in an attempt to ensure that seniors have adequate income (see *The evolution of public pension plans in Canada*). In 1998, about 2.5 million<sup>3</sup> Canadians received retirement pensions from the Canada Pension Plan (CPP).<sup>4</sup> The average monthly payment for these individuals was \$407 (HRDC 2003). Additionally, about 3.7 million received Old Age Security (OAS), of whom 1.4 million also received the Guaranteed Income Supplement (GIS). Based on 1998 rates, a senior living alone and relying solely on OAS and GIS would have an annual income of just under \$11,000. For senior couples with no other income source, annual income would be about \$17,400 (Statistics Canada 2001).<sup>5</sup>

It is difficult, if not impossible, to determine whether income from government transfers alone is adequate since seniors are not a homogenous group and their expenses vary. However, the income of a senior family no longer saving for retirement, paying off a mortgage, or supporting young children is much more likely to go further than that of a young family with all these expenses. Indeed, according to some actuaries, a mortgage-free retired couple living solely on CPP, OAS, GIS, and tax credits would have a 'consumable income' of \$24,000—the equivalent of a middle-income family earning \$63,400 after factoring in tax, retirement savings, and mortgage payments (Hamilton 1999). The 1999 SFS indicates that almost 80% of senior couples and 56% of all senior families had an income of at least \$24,000.

Although the comparison of senior and non-senior incomes is not straightforward, it provides a jumping-off point (Table 1). According to the SFS, the median

Table 1: Incomes, assets and debts

	All families	Senior families								Non-senior families
		All	65-74	75+	Unattached		Couples	Other types		
					Men	Women		Men	Women	
					'000					
Number of families	12,215.6	2,231.8	1,262.8	969.0	266.8	785.2	933.3	147.4	99.1	9,983.9
					'000 \$					
Total income	39.6	26.4	30.0	22.8	19.8	16.0	34.5	47.4	27.0	44.4
Assets	136.6	161.8	184.7	135.7	113.0 <sup>E</sup>	80.2	222.5	234.8	146.0	129.6
Financial assets*	16.5	35.0	40.2	30.0	F	26.0	52.5	38.5 <sup>E</sup>	F	14.0
Non-financial assets*	103.0	105.0	121.0	83.5	49.0 <sup>E</sup>	33.0 <sup>E</sup>	147.8	171.8	107.3	103.0
Principal residence**	125.0	120.0	120.0	110.7	100.0	103.0	125.0	150.0	100.0	130.0
Debts*	29.0	6.5	8.6	3.5 <sup>E</sup>	F	F	10.0	19.0 <sup>E</sup>	F	32.0
Net worth	81.0	154.6	174.7	132.4	111.1 <sup>E</sup>	76.6	216.0	212.0	134.0	69.1

Source: Survey of Financial Security, 1999

\* For those with assets/debts.

\*\* For those who own their principal residence.

income of senior families in 1998 was about 40% lower than that of non-senior families—\$26,400 compared with \$44,400. Income comparison is complicated since a family's income varies not only by stage of life but also by the type of family. For example, in the non-senior population, female lone-parent families had a median income in 1998 of about \$21,000, compared with \$60,000 for couples with children. In the senior population, unattached women had the lowest median income of all family types at about \$16,000; men in 'other' types of families had the highest at \$47,400. Even within family types pronounced differences can be seen. This is especially true for unattached seniors where widows and widowers are in a more advantageous financial position.<sup>6</sup> This is no doubt partly a function of the economies of scale associated with having lived with a spouse and of possibly having had two incomes. In addition, the widowed may have a survivor pension.

A further complication arises from the age of seniors. Even though income is lower, research shows that the expenditures of seniors decrease as they age. For example, the Survey of Household Spending has shown that younger seniors have higher expenditures than older ones (Hamilton 2001). Just as income and expenditures differ, so also does the financial picture (see *Young and old seniors*). Such variations exacerbate the difficulty in determining just how much income is enough.

### Some saving continues into old age

The life-cycle hypothesis states that income and wealth accumulate until retirement. At this point, the individual or family begins to live on the proceeds of their wealth and dissaving occurs. Recent analysis for the

### Young and old seniors

Just as the non-senior years entail various life stages, the senior years are also not uniform. For example, the income and attitudes of young seniors (65 to 74) may be quite distinct from those of seniors 75 or older.

The median income of older seniors was about 25% less than that of young seniors (\$22,800 versus \$30,000). The same pattern holds true for assets. Older senior families' assets were about 25% less than those of their younger senior counterparts. Although assets of the older group declined, debt does not appear to have been an issue for them. The median value of debt for senior families, regardless of age, was zero.

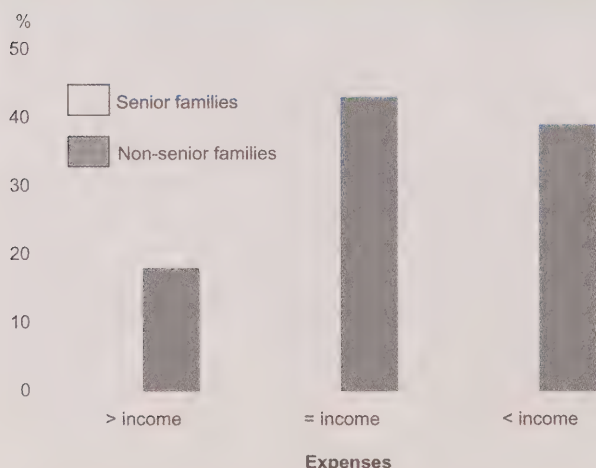
Since the value of older senior families' assets was lower than that of younger senior families, it is not surprising that the median value of their net worth was also about 25% lower (\$132,400 versus \$174,700). However, even with lower income, assets and net worth, older families were less likely to follow a budget and more likely to have income in excess of their spending. This is not surprising since research shows that as seniors age, expenses decrease (Hamilton 2001). Indeed, about 50% of older senior families stated that in 1998 their income exceeded expenses (compared with 43% of younger senior families), indicating that some older families continue to save for a rainy day.



Netherlands shows that for many seniors, dissaving does *not* occur; that is, many seniors are able to live off pensions or interest from investments without having to liquidate financial assets or sell their home or other sources of wealth (Alessie, Lusardi and Aldershof 1997). The 1999 SFS supports this notion. Almost one-half (46%) of Canada's senior families reported that their income exceeded expenses—that is, for many senior families, some type of savings continued after the traditional age of retirement.<sup>7</sup> However, declines in interest rates since 2000 have resulted in very low yields for many investments. Coupled with this has been the large decline in the stock market, which has eaten away at the value of mutual funds and dividends. It is reasonable to assume that the rate of dissaving fluctuates with the market, and has likely increased since the SFS was conducted in 1999.

At the other end of the spectrum, about 10% of senior families reported that expenses were greater than income (Chart B). It is important to determine if these individuals are just dissaving as the life-cycle hypothesis contends or if they face financial insecurity.

**Chart B: Expenses exceeded income in only 10% of senior families compared with 18% of non-senior families.**



Source: Survey of Financial Security, 1999

## Home is where the assets are

Because of the stage of seniors within the life cycle, a discussion of their financial well-being is not complete using income alone. Assets—type and value—are also part of the equation.

The SFS collects information on three types of assets: financial, non-financial, and business equity. Financial assets are relatively easy to convert to cash and include GICs, stocks, bonds, and RRSPs. Non-financial assets include the principal residence, vacation property, vehicles, house contents, and collectibles. Business equity is the value of a business after outstanding debts have been deducted.<sup>8</sup>

Neither senior nor non-senior families had substantial financial assets. The median value of financial assets for all senior families was about \$35,000 in 1999, compared with about \$14,000 (less than half) for non-senior families. As with income, financial assets varied by family type. Senior couples had the highest median value at almost \$53,000, while unattached senior women had the lowest at about \$26,000. The value of employer-sponsored pension plans was not included because they are not cashable. However, the actuarial value of these plans can be substantial. For seniors with such plans, the net present value was almost \$116,000 (see *Private pension savings*).

The largest source of assets for seniors is non-financial. Not surprisingly, for the more than two-thirds of seniors who were homeowners, the home was the most valuable asset—a median value of about \$120,000 in 1999. Most senior families owning their principal residence were mortgage-free (Table 2). About 61% owned their principal residence outright, and 7% had a mortgage. While a home is not as quickly convertible to cash as financial assets, it can be sold or the family can downsize to another and live on some of the net proceeds. Recently, reverse mortgages have become an option for seniors whose wealth is concentrated in their home.<sup>9</sup>

## Few seniors have debts

Looking at debt in relation to assets can provide a better indication of a family's financial situation. For example, while young families who buy a home may carry a substantial amount of debt, the debt level



**Table 2: Homeownership status**

		Senior families						Non-senior families
All families		All	Unattached		Couples	Other types		
			Men	Women		Men	Women	
Own with no mortgage	27.7	60.6	47.6	45.5	75.7	72.7	56.0	20.3
Own with mortgage	32.7	6.6	4.2 <sup>E</sup>	3.0 <sup>E</sup>	7.9	13.3 <sup>E</sup>	19.0 <sup>E</sup>	38.5
Do not own	39.6	32.8	48.2	51.6	16.4	14.0 <sup>E</sup>	25.0 <sup>E</sup>	41.2

Source: Survey of Financial Security, 1999

becomes more reasonable when looked at in relation to the home's value. Concern arises when debt is high and assets and income are low, as may be the case for seniors living on a fixed income.

Few seniors have debt: about 73% of senior families in 1999 reported having no debt. Indeed, the median value of debt for all senior families was zero, compared with \$14,000 for non-senior families. For the 610,100 senior families carrying debt, the median value was about \$6,500, compared with about \$32,000 for non-senior families. However, the amount of debt most seniors carry is relatively low. About 16% of senior families with debt owed less than \$500, while about 25% owed more than \$25,000.

Seniors also carry the lowest debt-to-asset ratio. Senior families owed an average of \$3 for every \$100 in assets, compared with \$31 for every \$100 for those under 25.

## Net worth

The net worth (wealth) of a family is the total value of its assets minus debts.<sup>10</sup> Even though a family may have substantial assets, a lot of debt may mean that net worth is low, zero or even negative. For example, an unattached individual just out of school may have few assets and a student loan, and therefore a negative net worth. While income and net worth are positively related, the relationship is not always perfect. For example, a family who has low income but substantial assets and little debt may still have a relatively high net worth—often the case for seniors.<sup>11</sup>

The median net worth of Canada's seniors is fairly substantial. In 1999, it was about \$155,000 compared with \$69,000 for non-senior families. Not surprisingly,

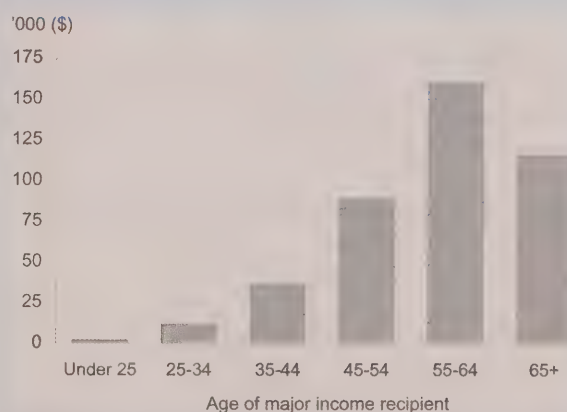
## Private pension savings

Private pension assets offer another layer in a multi-layer retirement income plan. These assets include individual savings in RRSPs and RRIFs, the value of benefits earned through employer-sponsored pension plans, as well as other pension savings such as annuities and deferred profit-sharing plans.

In 1999, two-thirds of senior families had some type of private pension assets. The median value of such assets for those 65 and older was \$115,700—second only to those aged 55 to 64. This is not surprising given that those aged 55 to 64 are in pre-retirement or early retirement and at their peak in terms of pension wealth, while those 65 and over have begun drawing down their pensions.

For more information on private pension savings see Statistics Canada (2001).

### Median private pension assets of seniors second only to those aged 55 to 64.



Source: Survey of Financial Security, 1999

## The evolution of public pension plans in Canada

At the beginning of the 20th century, the situation for seniors was bleak. For most, retirement was not an option. If a person became ill and unable to work, the prospect was to rely on family for support or else face living the remainder of life in poverty. By 1908, in response to the demand to help the elderly poor, the government began a program of annuities. It was built on the belief that individuals must plan for their future and shoulder the cost of their retirement. However, the program was not successful since those for whom it was designed did not have the means to purchase the annuities.

It was not until 1927 that the first public pension legislation (the Old Age Pensions Act) became law. The pension was available to those who passed a means test. It was also restricted to British subjects aged 70 and over who had lived in Canada for at least 20 years. The maximum pension amount was \$20 per month.

Old age pensions became increasingly restrictive during the Depression. In addition to the means test, provinces passed their own legislation to limit those who could qualify.

After World War II the economy began to boom, and most individuals saw an increase in their standard of living. However, because old age pensions did not allow for cost of living increases, their value eroded over time. Many seniors again found themselves living out their last years in financial hardship.

In 1952 the Old Age Security Act became law, establishing the first universal, federally funded pension for all men and women aged 70 and over. An Old Age Assistance allowance was also introduced. The allowance was designed for seniors between the ages of 65 and 69 whose income was below a certain threshold.

Despite these programs, many seniors still had little. During their working years, most had not had jobs that offered an employee pension plan. Even those who had paid into such a plan were often unable to collect because the contributory periods were very long or the

plans were not portable from one employer to another. In response, the federal government introduced the Canada Pension Plan (CPP) in 1966. (The Quebec government had previously launched its own Quebec Pension Plan [QPP].) This was a compulsory, contributory program for both employees and the self-employed between the ages of 18 and 70. The plan provided a source of income for seniors as well as insurance for families in the event of death or disability of the principal wage earner.

The next year the Guaranteed Income Supplement was established. It was tied to the Old Age Security pension for those who retired before they could take advantage of the C/QPP.

Between 1968 and 1989, the CPP underwent a variety of modifications designed to recognize changes in society as well as in economic conditions. Some of these included the lowering of the age of eligibility, the indexing of benefits, and the clawback of Old Age Assistance beginning in 1989. As a result of concerns about the long-term viability of CPP, the system moved in 1998 from pay-as-you-go to fuller funding. This resulted in a phase-in period of increasing contribution rates.

Today's income support programs for seniors have changed enormously from the original 1927 Old Age Pensions Act. For example, in 1998 just over 2.5 million seniors received a CPP retirement pension averaging \$407 per month. In the same year, almost 3.7 million received Old Age Security benefits averaging \$398 per month; about 1.4 million of these received an average monthly payment of \$293 under the Guaranteed Income Supplement program. In addition, some provinces have their own income support programs. For example, Alberta and British Columbia provide such benefits to seniors who qualify.

For more information on the history of Canada's public pension plans see the Canadian Museum of Civilization's Web site at [www.civilization.ca/hist/pensions/cpp1sp\\_e.html](http://www.civilization.ca/hist/pensions/cpp1sp_e.html). Current OAS, GIS and CPP rates and beneficiaries are available in *The ISP Stats Book* (see HRDC 2003 in the references).

just as income varies by family type, so does net worth. Unattached senior women had the lowest median net worth at about \$77,000, while senior couples had the highest at about \$216,000.

### Seniors more comfortable than non-seniors with their level of debt

Having examined the dollar value of income, assets, debts and net worth, the next step is to investigate some of the behaviour senior families exhibit with respect to their finances. This can provide a self-reported measure of financial comfort. While individuals and families budget for a variety of reasons (to save, track expenses, or pay for necessities), seniors

living on a fixed income might be expected to need to adhere to a monthly budget (Table 3). However, only about 3 in 10 senior families reported following a budget, compared with about 5 in 10 non-senior families. This finding was relatively constant regardless of family type.

Discomfort with the amount of debt can bring financial worries and indicate financial instability. Conversely, if debt is low and payments are manageable, debt may not be of concern. This appears to be the case for seniors. Only about 27% of senior families had some debt, and the vast majority (82%) were comfortable with their level.

Table 3: Approaches to financial affairs

	All families	Senior families						Non-senior families
		All	Unattached		Couples	Other types		
			Men	Women		Men	Women	
Used asset to pay debt	5.4	2.0 <sup>E</sup>	F	F	1.7 <sup>E</sup>	F	F	6.2
Have budget	44.8	31.7	21.7	31.5	33.9	34.0	35.1	47.8
Behind in payment	13.7	2.4	F	1.2 <sup>E</sup>	2.0 <sup>E</sup>	F	F	16.3

Source: Survey of Financial Security, 1999

Falling behind in bill payments can be stressful and is another indication of financial insecurity. Only 2% of senior families reported being behind two months or more in a bill, rent or mortgage payment in 1998, compared with about 16% of non-senior families.

Having enough income to pay for day-to-day expenses or to make debt payments provides some indication of financial security. However, the means used by families to pay for unexpected expenses provides a fuller picture of financial security. Often families may

be able to pay for small expenses but unable to cope with those that are large or unforeseen. Only a handful of senior families felt unable to pay for an unexpected expense of \$500 (Table 4). When asked about an expense of \$5,000, almost one-half stated that they would use savings, compared with only 18% of non-senior families. Another 5% said they would sell an asset, while 33% said they would borrow from a friend or bank, or use a combination of savings and borrowing. Indeed, senior families were half as likely as

Table 4: Paying for unexpected expenses

		Senior families						
All families		All	Unattached		Couples	Other types		Non-senior families
			Men	Women		Men	Women	
%								
\$500								
Use savings	55.4	75.0	75.1	72.5	79.6	68.4	61.8	51.1
Borrow from friend or relative	10.4	4.6	5.5 <sup>E</sup>	6.7	1.6 <sup>E</sup>	6.5 <sup>E</sup>	10.2 <sup>E</sup>	11.8
Borrow from financial institution	21.2	12.8	11.9 <sup>E</sup>	11.1	13.3	19.6 <sup>E</sup>	15.5 <sup>E</sup>	23.0
Use savings and borrow	4.0	2.1	F	1.7 <sup>E</sup>	2.5 <sup>E</sup>	F	F	4.5
Sell an asset	2.4	1.3 <sup>E</sup>	F	F	F	F	F	2.6
Could not do it	2.5	2.0	F	2.9 <sup>E</sup>	F	F	F	2.6
Don't know	0.7	0.6 <sup>E</sup>	F	F	F	F	F	0.7
Other	3.4	1.5 <sup>E</sup>	F	2.4 <sup>E</sup>	F	F	F	3.8
\$5,000								
Use savings	23.4	48.2	53.7	45.3	52.4	41.4	26.3 <sup>E</sup>	17.9
Borrow from friend or relative	7.5	5.2	4.6 <sup>E</sup>	8.0	3.1 <sup>E</sup>	F	F	8.0
Borrow from financial institution	45.2	24.0	18.9	19.8	27.3	31.5	28.3	50.0
Use savings and borrow	3.5	3.6	F	2.4 <sup>E</sup>	4.1 <sup>E</sup>	F	F	3.5
Sell an asset	4.0	4.7	F	5.2 <sup>E</sup>	4.3 <sup>E</sup>	F	10.7 <sup>E</sup>	3.8
Could not do it	8.6	7.5	10.9 <sup>E</sup>	10.9	3.4 <sup>E</sup>	6.0 <sup>E</sup>	12.8 <sup>E</sup>	8.8
Don't know	2.3	2.4	F	3.4 <sup>E</sup>	1.3 <sup>E</sup>	F	F	2.2
Other	5.5	4.3	3.2 <sup>E</sup>	5.0	4.0	F	F	5.8

Source: Survey of Financial Security, 1999



non-senior families to borrow from a financial institution (24% versus 50%). About 8% of senior families and 9% of non-senior families stated that they would be unable to make such an expenditure.

### **Unattached senior women and seniors whose expenses exceed their income: financial insecurity or dissaving?**

While in general the financial position of Canada's seniors is one of relative well-being, two senior groups deserve further investigation—unattached women and families whose expenses exceed their income.<sup>12</sup> Unattached senior women are traditionally thought to be among the most financially disadvantaged family types. Of all senior family types, unattached women have the lowest income, assets and net worth. Additionally, while they are more likely to own a home than many non-senior family types, they have the lowest likelihood within the senior population (48%).

Given that unattached senior women have less income and wealth than other senior family types, one might assume that they live on a budget. However, at 32%, they were less likely than non-senior families (48%) and no more likely than other senior families to follow a budget.

Another measure of the financial stability of this group is their ability to pay for unexpected expenses. Most felt able to handle an expenditure of \$500, and only about 11% stated that they would be unable to handle one of \$5,000—only slightly more than in the general senior population (8%).

The SFS also allows an examination of seniors whose spending exceeds their income. About 1 in 10 senior families (216,000) fell into this category. At first glance, these families may appear to be facing financial instability. But if examined within the life-cycle hypothesis, they may have begun to dissave as the theory suggests. Are these families more likely to have lower incomes than other senior families, or are they just drawing down their wealth? How does the value of their assets compare with other senior families? Also, how do they handle unexpected expenses?

Senior families whose spending exceeded income had only a slightly lower median income than other senior families (\$25,500 versus \$26,500). However, the median value of assets showed a greater difference—

\$147,300 compared with \$164,000 for other senior families. Again the largest share came from the value of a home. Median net worth was about \$35,000 less (\$121,500 versus \$158,000).

Since expenses of these families surpassed income, one might expect a large number to be unable to pay their monthly bills. However, 9 out of 10 were able to pay their bills on time (compared with 98% in the general senior population).<sup>13</sup> This suggests that many of these families may have begun to draw down their assets. A relatively large proportion had to be careful with their money—about 43% followed a budget compared with 30% of other senior families.

Unexpected expenses can be a problem for senior families living on a fixed income, particularly if expenses exceed income. However, only about 10% in this position stated that they would not be able or did not know how to deal with an unexpected expense of \$5,000—about the same as in the general senior population. Some 35% stated they would use savings, and the remainder indicated other means.<sup>14</sup>

### **Summary**

Although income is often used as an important indicator of financial well-being, wealth can be equally important—particularly in the case of seniors, who are in a unique financial position within the life cycle.

Income support programs for seniors in Canada are fairly extensive. The Canada and Quebec Pension Plans, Old Age Security, and the Guaranteed Income Supplement all provide a measure of financial security. Additionally, some provinces have their own income supplements. These programs play an important role in the income for seniors. Indeed, the 1999 Survey of Financial Security indicates that government transfers were the major source of income for two-thirds of senior families. Moreover, almost half of senior families stated that their income exceeded spending, indicating that some savings continued past the traditional retirement age.

Not surprisingly, the major asset of senior families is their home. Almost three-quarters had no debt and few followed a budget. However, as with younger families, large unforeseen expenses can be crippling for seniors. Indeed, about 8% of senior families and 9% of non-senior families felt they would be unable to pay for an unexpected expense of \$5,000.

## ■ Notes

- 1 RRSPs have probably been less important as a retirement strategy for older seniors (75+) than for younger seniors (65 to 74) and non-seniors.
- 2 These do not include term deposits, GICs, or the value of deposits in chequing or savings accounts. The value of RRSPs is contained in the private pensions category.
- 3 Another 400,000 Canadians received a combination of retirement and survivor pensions.
- 4 Individuals in Quebec belong to the Quebec Pension Plan (QPP). In 1998, about 870,000 individuals received an average of \$365 per month in QPP retirement benefits.
- 5 This does not include C/QPP retirement benefits.
- 6 One example of the difference within this group is net worth. Widowed unattached seniors had a median net worth more than 70% higher than that of other unattached seniors. Detailed financial breakdowns of widowed unattached seniors are not possible because of small sample size.
- 7 It is not possible from SFS data to determine if senior families who are saving are going without or whether they are forcing down their expenses to ensure savings.
- 8 The estimates for business equity are not sufficiently reliable to be released.
- 9 A reverse mortgage, through the Canadian Home Income Plan (CHIP), allows Canadian homeowners 62 and over to convert a portion of the equity of their home into an income stream while living in and owning their home. The amount that can be obtained is between 10% and 40% of the assessed value of the home, depending on the age of the owners—the older the owners, the larger the percentage. For more information on reverse mortgages, see the CHIP web site at <http://www.chip.ca>.
- 10 Does not include the value of employer-sponsored pension plans.
- 11 For more general information on wealth and net worth see Augustin and Sanga (2002).

12 These two groups are not mutually exclusive. About one-third of senior families whose expenses exceed income are unattached women.

13 These individuals responded no when asked if they were two or more months behind in payments.

14 This includes borrowing, a combination of savings and borrowing, selling an asset, or some other means.

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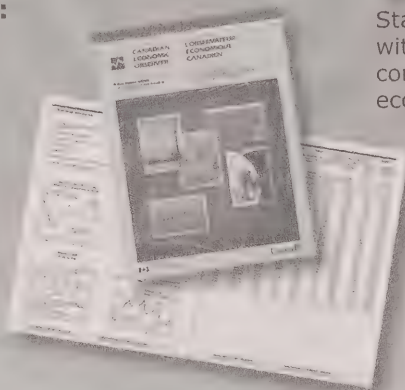
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# High-tech—two years after the boom

Geoff Bowlby

WITH A COLLAPSE IN DEMAND IN 2001 for their products and services, the high-tech sector experienced a number of high-profile layoffs. At the peak of the boom in the first quarter of 2001, the computer and telecommunications (CT) industries<sup>1</sup> employed 650,000 people. A year later, the number had dropped to 586,000 (-10%), and the unemployment rate had risen from only 3.9% to 6.6%.<sup>2</sup>

After the layoffs began to subside, the woes of the high-tech sector no longer made headlines. But what happened after March 2002? How did the high-tech workforce change in the next year? In short, CT employment stabilized. But beneath the relative calm, the turmoil and restructuring continued. Some CT workers, most notably the lowest skilled, continued to face layoff, while others enjoyed somewhat of a recovery.

This article looks at occupations in the high-tech industries, focusing on skilled and less-skilled workers. The second part of the analysis shows how average earnings levels and wage distributions have changed in CT industries in the last couple of years.

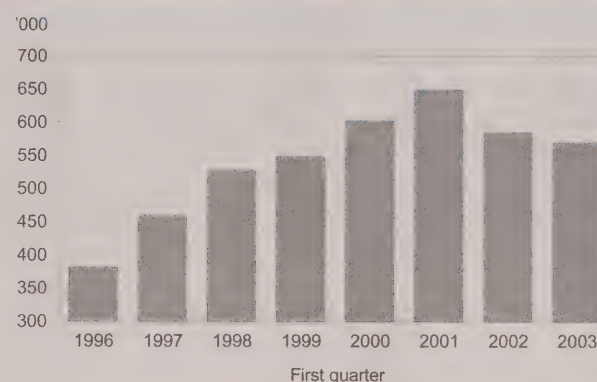
## General overview

After a sharp decline of 10% in 2001, employment in CT industries stabilized somewhat in 2002 and into 2003. In the first quarter of 2003, it was 570,000, down 3% from a year earlier and 12% below its 2001 peak (Chart A).

In Canada's four high-technology hubs—Toronto, Montréal, Ottawa-Gatineau and Vancouver—employment remained below its peak of two years earlier but was stable in all but Vancouver (Table 1). Of the four centres in 2002, Vancouver had the highest concentration of workers in telecommunications—currently the fastest declining component of the CT industries.

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**Chart A: Employment in high-tech industries stabilized in 2002.**



Source: Labour Force Survey

The layoffs of 2001 hit core-age workers (25 to 54) and youths the most. However, the slight declines in these two groups between the first quarters of 2002 and 2003 were nowhere near those of a year earlier. The drop in employment eased for both men and women.

## Manufacturing stable, telecommunications down

After shedding one in four workers between the first quarters of 2001 and 2002, the manufacturing part of the CT sector was essentially unchanged a year later. In the services component, a large drop in telecommunications employment was almost offset by a rebound in computer design and related services.

## Low-skill jobs continued to take a hit

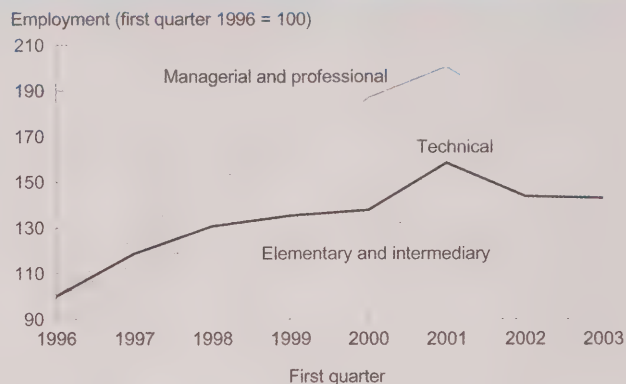
At several levels, high-tech employment stabilized. However, for the lowest skilled workers, it continued to fall sharply (Chart B).<sup>3</sup>

**Table 1: Employment in CT industries**

	First quarter			Change	
	2001	2002	2003	2002	2003
	'000			%	
<b>Total</b>	<b>649.8</b>	<b>585.7</b>	<b>570.0</b>	<b>-9.9</b>	<b>-2.7</b>
<b>Manufacturing</b>	<b>165.6</b>	<b>124.9</b>	<b>127.5</b>	<b>-24.6</b>	<b>2.1</b>
<b>Services</b>	<b>484.2</b>	<b>460.8</b>	<b>442.5</b>	<b>-4.8</b>	<b>-4.0</b>
Telecommu- nications	157.2	154.4	124.6	-1.8	-19.3
Computer systems design	256.8	237.6	254.4	-7.5	7.1
<b>Location</b>					
Toronto	197.8	152.8	159.0	-22.8	4.1
Montréal	104.7	99.4	102.7	-5.1	3.3
Ottawa	68.5	57.7	56.7	-15.8	-1.7
Vancouver	59.1	55.8	43.3	-5.6	-22.4
Rest of country	219.7	220.0	208.3	0.1	-5.3
<b>Age</b>					
15 to 24	66.1	52.8	49.9	-20.2	-5.6
25 to 54	556.5	500.6	487.6	-10.1	-2.6
55 and over	27.1	32.2	32.5	18.9	0.9
<b>Sex</b>					
Men	429.8	386.0	381.3	-10.2	-1.2
Women	220.0	199.6	188.7	-9.3	-5.5
<b>Class of worker</b>					
Employees	569.6	505.0	487.2	-11.3	-3.5
Self-employed	80.2	80.6	82.8	0.6	2.7
<b>Occupation*</b>					
<b>Managerial and professional</b>	<b>338.1</b>	<b>302.5</b>	<b>306.8</b>	<b>-10.5</b>	<b>1.4</b>
Managers	76.7	68.8	59.7	-10.2	-13.3
Engineers	45.5	31.3	34.8	-31.3	11.5
Computer programmers and systems analysts	193.9	179.6	191.1	-7.4	6.4
Other	22.0	22.9	21.1	3.9	-7.7
<b>Technical</b>	<b>180.4</b>	<b>163.8</b>	<b>162.7</b>	<b>-9.2</b>	<b>-0.7</b>
Line and equip- ment workers	29.2	25.3	22.1	-13.3	-12.9
Sales specialists	42.4	39.9	34.5	-6.0	-13.6
Engineering technicians	62.1	63.8	70.5	2.7	10.5
Other	46.7	34.8	35.6	-25.5	2.5
<b>Intermediary and elementary</b>	<b>131.3</b>	<b>119.4</b>	<b>100.6</b>	<b>-9.1</b>	<b>-15.8</b>
Assemblers in manufacturing	41.7	30.3	28.4	-27.2	-6.3
Clerical	76.5	73.4	59.3	-4.0	-19.2
Other	13.2	15.6	12.8	18.3	-18.0

Source: Labour Force Survey

\* Using skill definitions by Human Resources Development Canada

**Chart B: Declines persist in low-skill CT jobs.**

Source: Labour Force Survey, using skill definitions by Human Resources Development Canada

The high-tech employment bust is usually viewed as beginning in the second quarter of 2001. However, for the lowest-skilled workers (those in occupations not normally requiring college or university education), layoffs began in the first quarter. The second quarter saw cuts for workers in occupations demanding an intermediary or technical skill, followed by higher skill managers and professionals in the third quarter.

Not only did cuts start sooner for the least educated in the high-tech industries, they also continued longer, making them the most severe. Following a decline of 12,000 (-9%) between the first quarters of 2001 and 2002, low-skill occupations suffered a further reduction of 19,000 (-16%) over the next four quarters. By the first quarter of 2003, only 101,000 of those working in CT industries had jobs that did not require postsecondary education—three-quarters the level of two years earlier.

At first, the sharp and prolonged employment drop for low-skilled workers was driven by a reduction in assemblers of high-tech manufactured goods. Between the first quarters of 2001 and 2002, their number plummeted 27%; however, the decline was much slower in the next year (-6%). More recently, the downturn among the lowest skilled was related to declining clerical staff, which fell 19% between the first quarters of 2002 and 2003.

The next wave of layoffs occurred among those in jobs normally requiring a college education, and began in the second quarter of 2001. By the first



quarter of 2002, this group experienced a reduction of 17,000 (-9%), driven by a sharp decline in telecommunications line and equipment workers, and administrative officers. Unlike lower-skilled occupations, the number of people working in jobs normally requiring a college education stabilized between the first quarters of 2002 and 2003. During this time, employment slipped only slightly (-1,000), much less than in the previous year.

As telecommunications line and equipment workers and technical sales specialists continued to become scarcer, engineering technicians experienced some gains. On average, for the first quarter of 2003, 163,000 CT workers were employed at jobs requiring a college education—10% below the level two years earlier. In the second quarter of 2001, employment for the highest skilled—managers and professionals—was at its peak. The employment decline in these occupations lasted a year, bottoming out in the second quarter of 2002.

In total, employment in the high-skilled occupations dropped 11% between the first quarters of 2001 and 2002. The following year, however, saw some recovery among managers and professionals. Compared with the first quarter of 2002, employment was up a slight 4,000 (1%) to 307,000. While managerial jobs continued to decline at a fast clip, some employment was added among engineers as well as computer programmers and systems analysts, the largest occupational group in the high-tech industries.

Because of the persistent decline in employment in lower-skill occupations in the past couple of years, the composition of the high-tech

workforce has shifted in favour of occupations that normally require postsecondary education. While low-skilled occupations made up 20% of all employment in the CT industries in the first quarter of 2001, two years later that share had dropped to 18%. Meanwhile, occupations normally requiring a college education increased their share from 28% to 29%. High-skill management and professional employment also saw relative gains—from 52% to 54%.

### Stagnant demand for workers, but earnings still inch up

While demand for high-tech workers decreased, as reflected in falling employment and rising unemployment rates, median wage rates for employees<sup>4</sup> did not fall (Chart C), in part because of the continued layoff of lower-skilled, lower-paid workers.

In the first quarter of 2003, median hourly earnings in CT were \$21.63, 2% higher than a year earlier. Even during the worst of the high-tech cuts, earnings rose, albeit less than

the cost of living. Between the first quarters of 2001 and 2002, median earnings rose 1%.

High-tech workers are paid much better on average than other workers. The median hourly earnings for all employees in the first quarter of 2003 were \$16, 26% less than for those in the CT industries. While over 1 in 10 high-tech workers was paid \$40 or more per hour, only 1 in 36 employees outside high-tech was paid this much.

The recent wage gains in high-tech pale in comparison with those in the sector's heyday when reports of occupational shortages were more widespread. In the two years preceding the first quarter of 2001, median earnings jumped 10%. In the most recent two years, median earnings increased only 3% (Table 2).

After the end of the high-tech employment boom, wage gains slowed for almost all occupations in the CT industries. The most dramatic example occurred among engineers. Between 1999 and 2001, median earnings for this group shot

**Chart C: Earnings still rising, but at slower pace.**



Source: Labour Force Survey



**Table 2: Median hourly earnings in CT industries by occupation**

	First quarter			Change	
	1999	2001	2003	Q1 1999 to Q1 2001	Q1 2001 to Q1 2003
	\$			%	
<b>Total</b>	<b>19.06</b>	<b>20.98</b>	<b>21.63</b>	<b>10.0</b>	<b>3.1</b>
Management	26.17	30.45	33.40	16.3	9.7
Business, finance and administrative	16.68	16.83	17.36	0.9	3.2
Natural and applied sciences and related	21.27	24.45	24.04	15.0	-1.7
Computer programmers and systems analysts	22.21	25.21	25.43	13.5	0.8
Engineers	24.12	31.73	32.69	31.6	3.0
Other	16.47	17.67	18.58	7.3	5.2
Sales and service	15.62	18.11	19.82	15.9	9.4
Technical sales	14.23	17.69	21.21	24.3	19.9
Other	16.96	20.13	13.14	18.7	-34.7
Trades, transport and equipment operators and related	20.93	21.67	22.89	3.5	5.7
Telecommunications line and equipment workers	22.83	23.10	24.14	1.2	4.5
Other	17.15	18.57	15.38	8.3	-17.2
Occupations unique to processing, manufacturing and utilities	11.94	12.28	12.86	2.9	4.7
Assemblers in manufacturing	11.58	11.75	12.49	1.4	6.3
Other	15.20	20.17	15.50	32.7	-23.2
All other	19.22	19.72	18.98	2.6	-3.8

Source: Labour Force Survey

to \$31.73 per hour, an increase of almost 32%, whereas in the last two years, they inched up only 3%.

The largest occupation group, computer programmers and systems analysts, also showed a dramatically reduced growth rate in earnings. In the last two years of the boom, earnings for these workers increased 14%, but have changed little since the first quarter of 2001. At \$25.43 per hour in the first quarter of 2003, their median earnings were a mere 1% higher than two years earlier.

## Summary

Although high-tech layoffs subsided in 2002, firms continued to reduce employment in occupations that require the least skill and have

only recently returned to hiring added managerial and professional staff.

This has meant a compositional shift in high-tech employment to a workforce with relatively more formal education. As a result, average earnings have continued to increase despite the drop in demand for workers. However, even though earnings continue to rise, they are not doing so at anywhere close to the rates seen during the boom years.

## Perspectives

### Notes

1 The computer and telecommunications (CT) industries form a sub-sector of the wider information and

communications technology (ICT) sector. Essentially, they are the industries within the ICT sector that can be identified at a four-digit North American Industrial Classification System (NAICS) level. For more detail on what is included among the CT industries, consult Bowlby and Langlois (2002), p. 13.

2 The decline in the high-tech sector has been documented in Bowlby and Langlois (2002) and Vaillancourt (2003).

3 Human Resources Development Canada developed the skill levels used in this article. Embedded within each occupation code in the National Occupational Classification (NOC) is the skill level normally held by workers in the occupation. This skill level is based on the formal education normally required for the job, although the system also incorporates whether the job requires supervisory responsibility or significant health and safety responsibilities. For more information, see the HRDC Web site, [www.hrdc-drhc.gc.ca](http://www.hrdc-drhc.gc.ca), and search for 'National Occupational Classification.'

4 The Labour Force Survey does not collect earnings information from the self-employed.

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# Seasonal work and Employment Insurance use

*Shawn de Raaf, Costa Kapsalis, and Carole Vincent*

SEASONAL WORK has long been an important aspect of the Canadian labour market. With a large resource sector and one of the most varied climates in the world, Canada naturally exhibits large seasonal fluctuations in output and employment. In recent decades, however, the importance of seasonal work has gradually diminished as industries have modernized and diversified. The average monthly swings in employment due to seasonality declined during the 1976-1997 period (Marshall 1999; Guillemette, L'Italien and Grey 2000).<sup>1</sup> Two principal trends have contributed to this reduction: a technology-driven decrease in seasonality within traditionally seasonal industries, and an overall drop in the employment share of these industries as a result of more demand for services and less demand for manufactured goods.

However, seasonal jobs continue to account for a large share of employment in some regions. The Atlantic region in particular remains well above average, mainly because of its highly seasonal industries. Moreover, Canada has more seasonal workers relative to other countries with a similar climate. Among the Nordic countries (Finland, Sweden, Denmark, Iceland, and Norway), where similar seasonal employment trends would be expected, only Finland exhibited greater seasonal fluctuations in employment over the 1994-1998 period than Canada (Grady and Kapsalis forthcoming).

While seasonal work may be preferable for some, such as students, it may not be the optimal pattern for many workers who from year to year face various barriers to secure, year-round employment. Since their financial resources may be uncertain for large parts of the

## Data source

Introduced in 1993, the **Survey of Labour and Income Dynamics** (SLID) is well suited to the study of recurrent or long-term seasonal workers since it is designed to track the economic well-being of respondents over time. SLID samples working-age individuals who do not live on reserves or in institutions and who are not serving in the Canadian Forces. Individuals are interviewed over six years, with a new panel of respondents selected every three years. Each panel contains about 15,000 households representing about 30,000 individuals aged 16 and older.

Information is collected in two annual interviews: labour in January and income in May. The labour interview collects such information as the person's employment during the past year, household composition, and educational activity. The income interview collects information on an individual's income and its sources during the previous year. This interview is not necessary if the respondent gives Statistics Canada permission to use tax records. As a result, most respondents do not have to complete the income interview.

year, many seasonal workers rely on Employment Insurance (EI) to stabilize their income in the off-season. However, not all workers resort to EI following their layoff, either by choice or because their seasonal employment does not provide them with enough hours of work to qualify.

This article addresses disparities in the measurement of seasonality by proposing definitions that distinguish between seasonal workers and seasonal jobs. Using longitudinal data from the Survey of Labour and Income Dynamics (SLID) for 1993 to 1998, the many dimensions of seasonality are examined to determine the extent to which each contributes to frequent reliance on EI benefits. The article also looks at which characteristics distinguish seasonal workers who frequently rely on EI benefits from those who claim infrequently or not at all. Over the 1993-1998 period, a majority of seasonal workers regularly relied on EI following a seasonal job spell, but almost one-fifth did

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**Table 1: Alternative Measures of Seasonality**

Measure	Data source	Highlights
<b>Seasonal employment</b>	Labour Force Survey, 2000	5.1% of all employees reported having a non-permanent, seasonal job. • 14.6% among those under 25 • 2.8% among those 25 and older
	New Brunswick Seasonal Workers Survey, 1996 (L'Italien, Le Breton and Grignon 1999)	20.1% of employees and the self-employed in New Brunswick reported having a seasonal job. • 23.3% among men • 16.3% among women
	Survey on Repeat Use of Employment Insurance, 1997 (Schwartz et al. 2001)	57.3% of 1996 EI claimants who were working in 1997 reported having a seasonal job in that year. • 61.6% among male frequent EI claimants • 49.9% among female frequent EI claimants • 27.6% among male occasional EI claimants • 20.1% among female occasional EI claimants
<b>Seasonal unemployment</b>	Canadian Out of Employment Survey, 1995 to 1997 (HRDC 2001)	15.5% of all workers who experienced a job separation reported that the separation was due to seasonal factors. • 73.0% expected to return to their employer (compared with 47.1% of workers reporting their separation not due to seasonal factors). • 52.9% claimed EI (the same proportion as workers who reported their separation not due to seasonal factors).
	Employment Insurance Coverage Survey, 1997 to 1999	18.3% of unemployed reported their last job was seasonal. • 21.6% among those under 25 • 17.3% among those 25 and older • 60.8% of unemployed seasonal workers received EI benefits (compared with 53.2% of the unemployed who reported that their last job was not seasonal).
<b>Seasonal reliance on EI benefits</b>	Employment Insurance Coverage Survey, 1997 to 1999	20.5% of EI beneficiaries reported that their last job was seasonal. • 25.1% among those under 25 • 19.9% among those 25 and older
	HRDC (2003)	26.7% of all EI claims were made by claimants with seasonal claim patterns. • 79.0% among frequent EI claims
	Survey on Repeat Use of Employment Insurance and EI Administrative Data, 1996 (Gray and Sweetman 2001)	Approximately 15% of 1996 EI claimants had seasonal claim patterns over a six-year period from 1992 to 1997.

not claim at all. Also pointed out is the significant variation in the characteristics of seasonal workers according to their reliance on EI.

### Using SLID to measure long-term seasonality

Measuring seasonality on an individual basis is challenging since seasonal jobs account for only a small fraction of the millions of hirings and separations that give rise to seasonal employment patterns. It is easier

to classify a job rather than a worker as seasonal. By definition, seasonal jobs provide temporary work that is expected to last only until the end of a 'season'—the period for which services are in demand. In contrast, seasonal workers are individuals who face annual spells of unemployment because of regular fluctuations in demand for their particular set of skills and experience. They may work one or more jobs, not all necessarily considered seasonal, in such a way that their annual employment displays a seasonal pattern.



A variety of measures have been used to identify the extent of seasonal work. While some give an indication of the incidence of EI use among seasonal workers or the seasonality of frequent claimants' EI patterns (Table 1), they do not directly measure the relationship between seasonal work and frequent EI use. Such analysis requires a longitudinal source, such as SLID, which captures both work and EI use patterns over time.<sup>2</sup>

Self-identification raises concerns about the accuracy of respondent perceptions of the seasonal nature of their work. For instance, respondents may incorrectly identify their jobs as seasonal if they work in seasonal employment but the job does not end for seasonal reasons. Or, they may simply not be aware the job ended for seasonal reasons and therefore incorrectly indicate other reasons. As well, a seasonal worker may work a variety of temporary jobs, not all of which end for seasonal reasons.

SLID provides an opportunity to move beyond self-identification and to classify seasonal workers according to employment patterns over several years. By comparing job separations and work absences from year to year, it is possible to identify long-term seasonal workers and then link their seasonal employment patterns to any EI claims.

Long-term seasonal workers are defined as persons aged 18 to 59 in 1993 who were not full-time students at any point during the 1993-1998 period<sup>3</sup> and who had at least three paid-job (or self-employed in fishing) spells ending within the same three-month 'off-season' over the five-year period 1993-1997 or 1994-1998. Jobs could not last more than nine months. With this 'mechanical' definition of seasonal work, 4.4% of all employees and self-employed fishers were seasonal workers over the six-year period.

### Comparing measures of long-term seasonal workers

The mechanical definition can be compared with the two common definitions of seasonal work: the self-reported definition, which estimates the number of workers who report they experienced a job loss or absence from work for seasonal reasons, and the industry-based definition, which estimates the number of workers in traditionally seasonal industries. Under the self-reported definition, 2.6% of employees and self-employed fishers reported seasonal reasons for

**Table 2: Seasonal work among 1998 employees and self-employed fishers**

Definition	In 1998	1994-1998
		%
At least one definition	...	2.6
Mechanical	...	2.2
Self-reported	2.6	1.0
Industry-based	2.1	0.9

Source: *Survey of Labour and Income Dynamics, 1994-1998*

their job spell ending in 1998 (Table 2). Under the industry-based definition, the figure was 2.1%.

For consistency with the mechanical definition, these job spells could not have lasted more than nine months. A comparison of these two definitions with the mechanical definition also requires that these workers had a seasonal job spell in at least two of the previous four years (1994 to 1997). The addition of this long-term dimension reduced the incidence of seasonal work from 2.6% to 1.0% under the self-reported definition and from 2.1% to 0.9% under the industry-based definition. The mechanical definition identified the highest percentage of workers in 1998 as seasonal. Overall, 2.6% of employees and self-employed fishers met at least one of the definitions. These estimates are low, likely because seasonal workers needed to have had at least two seasonal jobs spells between 1992 and 1997 in addition to their spell in 1998.

The mechanical definition identified the largest pool of seasonal workers (Table 3). It accounted for 85.0% of workers with a job spell that ended in 1998 who satisfied at least one of the three definitions of long-term seasonal workers (2.2 of the 2.6% of employees and self-employed fishers). The self-reported definition provided the next largest estimate, 38.5% of long-term seasonal workers (1.0 of 2.6%), followed by the industry-based definition. Moreover, a significant proportion (41.6%) of seasonal workers satisfied the mechanical definition alone. Self-identification or the industry-based definition failed to capture two-fifths of potential seasonal workers. On the other hand, the mechanical definition excluded 15% of workers who satisfied one of the other definitions. On balance, the mechanical definition of seasonal work appears to be

**Table 3: Overlap between definitions of long-term seasonal workers**

	Proportion
	%
At least one definition	100.0
Mechanical	85.0
Self-reported	38.5
Industry-based definition	34.1
Mechanical definition	41.6
• and the self-reporting definition	18.3
• and the industry definition	12.6
• and both other definitions	12.5

Source: Survey of Labour and Income Dynamics, 1994-1998

Note: Long-term seasonal workers are workers who experienced a job loss in at least three of the five years, one being in 1998.

the best in identifying the commonalities shared by workers who face regular seasonal layoffs and must rely on EI benefits, regardless of their industry or perception of the nature of their work.

### The link to EI benefits

To determine the relationship between seasonal work interruptions and reliance on EI, SLID respondents were classified as seasonal workers if they had three unemployment spells occurring in the same 'off-season' in either the 1993-1997 or the 1994-1998 period. A job spell was associated with an EI spell if the individual received EI benefits within three months following the end of the job spell (Table 4).<sup>4</sup>

**Table 4: Use of Employment Insurance by long-term seasonal workers**

	Workers	Jobs leading to EI
		%
<b>Total</b>	<b>100.0</b>	<b>60.9</b>
Seasonal job spells leading to EI		
None	17.3	0.0
One	20.2	6.7
Two	24.9	16.6
Three	37.6	37.6

Source: Survey of Labour and Income Dynamics, 1993-1998

Note: Long-term seasonal workers are workers who experienced a job loss in at least three years during the periods 1993-1997 or 1994-1998.

More than one-sixth (17.3%) of long-term seasonal workers did not receive EI benefits following any of their three seasonal job spells. In total, about 61% of seasonal jobs were followed by EI. (The EI Coverage Survey found EI use to be 61% among workers who identified their last job as seasonal.)

The finding that three-fifths of seasonal job spells led to EI receipt indicates that long-term seasonal workers face significant barriers in finding a new job. Long-term seasonal workers were more likely to be older, male, less educated, living in regions with high unemployment rates, living with a partner, and living in the Atlantic provinces or Quebec (Table 5).

Workers who never received EI or received EI only once were nearly evenly divided between men and women, but men accounted for over two-thirds of those claiming two or three times. Seasonal workers relying most frequently on EI tended to be older than other EI users. Among workers who received EI following each seasonal job spell, the proportion 40 and older was nearly double that of those who never claimed or claimed only once (39.3% versus 21.2%). The majority of long-term seasonal workers had not graduated from postsecondary education—less than one-third had postsecondary credentials, compared with 45.2% of workers who never relied on EI.

The use of EI is related to local job opportunities for seasonal workers as well as regional eligibility rules. The EI program has variable entry requirements that fluctuate according to local labour market conditions. A worker living in a region with a lower unemployment rate will not only need more hours of work to qualify for EI, but will also receive fewer weeks of benefits for a given amount of work than someone in a high unemployment region. Nearly half of seasonal workers who never claimed EI lived in low unemployment regions, while over two-thirds with three years of receipt lived in regions with unemployment rates of over 9%.

Long-term seasonal workers who relied most intensively on EI were more likely to live in Atlantic Canada and Quebec, where unemployment rates tend to be higher and seasonal work is more integral to the economy. The majority of workers who claimed EI in only one or two years lived in Ontario or the Western provinces. Although these provinces had a significant population of seasonal workers, because of either stricter regional eligibility requirements or a greater availability of off-season work, the end of a seasonal job did not necessarily lead to an EI claim.



**Table 5: Characteristics of long-term seasonal workers**

	Seasonal job spells leading to EI				Proportion of seasonal workers
	None	One	Two	Three	
	%				
<b>All</b>	<b>17.3</b>	<b>20.2</b>	<b>24.9</b>	<b>37.6</b>	<b>100.0</b>
<b>Age</b>					
Under 30	45.4	48.9	36.8	27.1	37.1
30 to 39	33.5	30.3	31.3	33.6	32.3
40 and older	21.2	20.8	31.9	39.3	30.6
<b>Sex</b>					
Men	50.8	53.3	68.4	72.0	63.7
Women	49.2	46.7	31.6	28.0	36.3
<b>Education</b>					
High school or less	54.8	53.5	55.7	67.9	59.8
More than high school	45.2	46.5	44.3	32.1	40.2
<b>Regional unemployment</b>					
7% or less	49.3	42.5	24.5	14.9	28.8
Over 7% to 9%	17.0	27.2	21.9	17.0	20.3
Over 9%	33.7	30.2	53.6	68.1	50.9
<b>Marital status</b>					
Without partner	40.0	33.4	31.3	23.8	30.4
With partner	60.0	66.6	68.7	76.2	69.6
<b>Region</b>					
Atlantic and Quebec	28.4	25.2	44.8	70.2	47.6
Ontario and West	71.6	74.8	55.2	29.8	52.4
<b>Family income</b>					
Under \$35,000	32.4	26.6	42.7	35.0	34.8
\$35,000-59,999	40.6	33.6	34.1	41.4	37.9
\$60,000 or over	27.0	39.8	23.3	23.6	27.4

Source: Survey of Labour and Income Dynamics, 1993-1998.

Note: Long-term seasonal workers are workers who experienced a job loss in at least three years during the periods 1993-1997 or 1994-1998.

The family circumstances of long-term seasonal workers varied somewhat according to EI use. While the majority of seasonal workers lived with a partner, this share became even larger as reliance on EI increased. However, this does not mean that seasonal workers claiming EI more frequently were better off financially. Although the distribution of family income varied only slightly among the four types of EI claimants, seasonal workers with one or no claims were more likely to be in the highest (\$60,000 plus) category, even though they were less likely to be living in a household with another potential adult earner. Workers with two or three claims were more likely to be in the lowest income category (under \$35,000).

Workers who claimed EI after only one of their three seasonal job spells appeared to experience less financial hardship than other seasonal workers—even those who never claimed EI at all. They were much more likely to be living in households with higher family incomes. This may reflect their personal circumstances, since they tended to have the highest educa-

tional attainment and were least likely to be living in high unemployment regions. These seasonal workers appeared to have greater flexibility in their decision to claim EI, likely because better work opportunities were available to them.

Long-term seasonal workers can be found across Canada, in regions with a diversity of economic conditions. The large percentage of seasonal workers living in regions with relatively low levels of unemployment belies the stereotype of seasonal EI claimants: persons living in regions with poor economic conditions and heavily dependent on traditionally seasonal industries. Nevertheless, seasonal workers relying more frequently on EI tended to live in regions with fewer employment opportunities.

A seasonal worker's economic circumstances and personal characteristics appear to be key factors in determining the degree of reliance on EI (Table 6). Individuals who did not receive EI following any of their three seasonal jobs had the highest incidence of potential non-eligibility for benefits because of insufficient hours of work. The incidence of multiple jobholding before the work interruption was also highest among these individuals. Consistent with the higher incidence of multiple jobholding, workers who never claimed EI had the highest incidence of part-time re-employment. However, their incidence of full-time re-employment was the lowest; they were employed full time within three months following 50% of their work interruptions, roughly 10 percentage points lower than those with one or two seasonal spells leading to EI.



**Table 6: Alternatives to EI among long-term seasonal workers**

	Job spells leading to EI			Job spells not leading to EI
	None	One	Two	
	%			
<b>All</b>	<b>42.0</b>	<b>35.3</b>	<b>22.7</b>	<b>100.0</b>
<b>Lower attachment to the labour market</b>				
During the 12 months preceding seasonal work interruption, individual had fewer hours of paid work than the minimum required in EI region	27.1	15.2	18.9	21.0
<b>Multiple jobholding</b>				
Multiple jobholder in month before work interruption	35.5	28.1	18.1	29.0
<b>Re-employment within 3 months</b>				
Part time	25.0	21.5	9.3	20.2
Full time	49.6	61.8	61.1	56.5

Source: Survey of Labour and Income Dynamics, 1993-1998

Note: Long-term seasonal workers experienced a job loss in at least three years during the periods 1993-1997 or 1994-1998.

## Conclusion

Seasonal workers continue to be a large and growing proportion of EI beneficiaries. Despite a general decrease in the proportion of frequent claimants from 1999-2000 to 2000-2001, frequent seasonal claims declined by only 3.7% compared with a 5.6% drop for frequent non-seasonal claims. The relative stability of seasonal claims is "not surprising, as the nature of some seasonal work does not necessarily lead to a decline in claims in periods of strong economic growth" (HRDC 2002).

One reason for the growing proportion of seasonal workers among EI claimants may be that the 1996 change from a weeks-based to an hours-based system for determining eligibility has had a positive effect on their EI eligibility and entitlement. The switch was made in part to address concerns that a large and growing proportion of workers were not eligible for EI benefits should they become unemployed. However, it also meant that weeks worked by seasonal workers—who tend to work more hours per week—would now be insured to a greater extent, allowing many to qualify sooner for benefits. Indeed, the reforms resulted in a marginal increase in eligibility and an increase of 1.6 weeks of entitlement among seasonal claimants (HRDC 2001).

However, not all seasonal workers were positively affected. Seasonal claimants with less than 30 hours of work per week lost significantly in terms of EI eligibility compared with other claimants (HRDC 2001). (They were 21 percentage points less likely to qualify for EI, and those who did qualify received 2.6 weeks less of entitlement.)

Despite the large contribution of seasonal work to EI dependency, not all seasonal workers are frequent EI claimants. While a majority do rely on EI on a regular basis, a significant proportion do not claim at all. They are not necessarily able to avoid relying on EI by doing better in the labour market. They are younger and more likely to live in regions with relatively good employment opportunities; however, at the same time they are more likely to have a lower attachment to the labour market or to be in a precarious employment situation—combining multiple, possibly part-time jobs to provide year-round employment. Conversely, seasonal workers who rely the most on EI face significant barriers to securing non-seasonal employment. They are older, less educated, and live in regions with the poorest employment opportunities.

## Perspectives

### Notes

1 HRDC (2001) provides a more recent analysis of seasonality. However, this analysis looks at the extent of seasonal work among those who experienced a job separation using the Canadian Out-of-Employment Panel. It is thus an analysis of seasonality among unemployed as opposed to employed workers.

2 Although SLID includes 'seasonal nature of work' as a reason for losing a job, this information is not the focus of this study. SLID releases from 1993 to 1998 did not include the seasonal nature of respondent employment, but future releases will.

3 The maximum age in 1993 was 59, so all workers in this study are under 65 throughout the period of analysis.

Although SLID interviews those who are 16 and older, this sample excludes those under 18 since they are unlikely to be significant labour market participants.

4 Respondents are classified as seasonal workers if they had three unemployment spells occurring in the same 'season' in one of two five-year periods—January 1993 to December 1997 or January 1994 to September 1998. The monthly EI information, captured in the January labour interview, is based on the respondent's recollection of EI receipt during the past year. In approximately 10% of cases, this information is missing. In these cases, information collected in the income interview (derived from respondents' income tax records in the majority of cases) is used. Where annual information indicates receipt of EI during a given year while monthly variables do not, the respondent is considered to have collected EI in the same year if the job ended by September 30 and EI was received in the same year. If the job ended after September 30, EI receipt is then looked for in the following year.

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# Precarious jobs: A new typology of employment

Leah F. Vosko, Nancy Zukewich and Cynthia Cranford

MANY CANADIANS engage in non-standard work—that is, employment situations that differ from the traditional model of a stable, full-time job. Under the standard employment model, a worker has one employer, works full year, full time on the employer's premises, enjoys extensive statutory benefits and entitlements, and expects to be employed indefinitely (ECC 1990; Schellenberg and Clark 1996; Vosko 1997). Work that differs from the standard is described in several different ways, 'non-standard' and 'contingent' being two commonly used terms. Non-standard is used widely in Canada (Krahn 1991, 1995), contingent in the United States (Polivka and Nardone 1989; Polivka 1996). Another approach is to consider dimensions of 'precarious employment' in relation to a typology of total employment (Rodgers 1989; Fudge 1997; Vosko 2000).

Many non-standard jobs may correspond to an employee's life-cycle needs—such as combining part-time work with full-time education, or devoting more time to activities outside the workplace. Indeed, men's and women's differing reasons for part-time work and self-employment illustrate the importance of gender-based<sup>1</sup> analysis of trends in non-standard work. For example, in 2002, 42% of men compared with 25% of women worked part time because they were attending school, while 15% of women and just 1% of men cited child-care responsibilities. These findings reflect differing care and education trade-offs for men and women (see also Vosko 2002). At the same time, slightly over one-quarter (27%) of part-timers were working part time because of poor business conditions or because they could not find full-time work.

The 2000 Survey of Self-Employment also highlighted differences in self-employment patterns for men and women. Data indicated that 13% of own-account

self-employed women cited balance of work and family as the main reason for becoming self-employed, while too few men cited this reason to produce a statistically reliable estimate. Similar to the 'involuntary part-timers,' a quarter of own-account self-employed (26%) became self-employed because they could not find suitable paid employment.

Changes over the long run in the proportion of non-standard jobs may signal changes in broader economic and social conditions. The shift to non-standard work arrangements has also been tagged as signalling *casualization*—stemming from the use of casual labour to replace permanent full-time workers. The term has come to include most jobs that tend to offer less security than the standard employment relationship with respect to hours, earnings and benefits. One result of casualization is that certain groups of men—those under 25, recent immigrants or visible minorities—are experiencing downward pressure on earnings and conditions of work as they increasingly take jobs in occupations where women have traditionally been employed. This further underscores the relevance of a gender-based analysis of non-standard work.

In the early 1990s, non-standard work grew considerably (Krahn 1991, 1995). That is, there was a substantial increase in the percentage of people who had part-time or temporary jobs, were own-account self-employed in their main job, or held multiple jobs. The standard employment relationship, nevertheless, remained the model upon which labour laws and policies were based.

This article examines recent trends in non-standard work using the General Social Survey and the Labour Force Survey. It first compares the concepts of non-standard, contingent and precarious employment, and then introduces a mutually exclusive typology that highlights some aspects of precarious employment. The results indicate that some forms of such-defined precarious employment have increased marginally over the past decade.

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## Defining non-standard and contingent employment

Employment insecurity is an essential aspect of the definition of non-standard work (Krahn 1991). The broadest measure of non-standard employment used in Canada comprises four situations that differ from the norm of a full-time, full-year, permanent paid job: part-time employment;<sup>2</sup> temporary employment, including term or contract, seasonal, casual, temporary agency, and all other jobs with a specific pre-determined end date;<sup>3</sup> own-account self-employment (a self-employed person with no paid employees); and multiple jobholding (two or more concurrent jobs) (Krahn 1995).

To focus on more specific forms of non-standard employment, a more restrictive definition that

includes only part-time work and temporary jobs is used. The rationale for excluding multiple jobholding is that full-time workers holding a second job are not necessarily in an insecure situation, nor are the own-account self-employed since they have an ongoing employment relationship with themselves (Krahn 1991). Some researchers have also included shift work in their definition of non-standard employment in an effort to measure the decline in the 'typical' 9 to 5, Monday to Friday workweek (Sunter 1993; Siroonian 1993; Galarneau 1994).

In the United States, three different definitions of contingent employment have been used, each pivoting on permanency. These definitions include only people employed on a temporary basis.

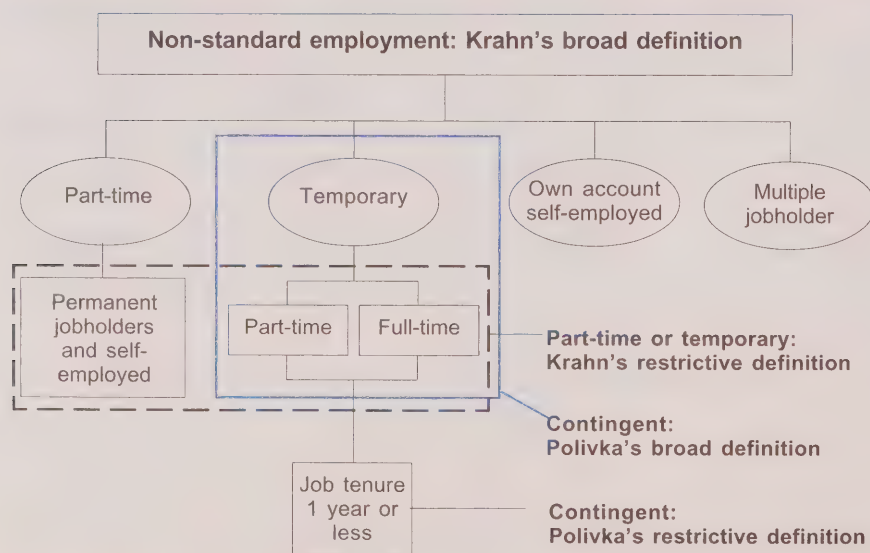
The first definition includes all wage and salary workers<sup>4</sup> who do not expect their job to last. This corresponds with the Statistics Canada definition of temporary work. The second definition narrows the focus to employment of very limited duration by including only those wage and salary workers who expect to work in their current job for one year or less<sup>5</sup> and who have worked for their current employer for less than one year. The third definition broadens the second by including self-employed workers who expect to be, or have been, in their current employment situation for one year or less.<sup>6</sup>

The breadth of the non-standard work concept contrasts with the specificity of the American definitions of contingent work (Figure 1). The broad definition of non-standard employment encompasses the first definition of contingent employment, making temporary work the only element common to both frameworks. The full-time-part-time distinction is not considered in the contingent work concept. However, Krahn's more restrictive definition of non-standard work takes account of both temporary and part-time work.

Recent trends in the prevalence of non-standard employment are tracked through the Labour Force Survey and the General Social Survey (see *Data sources*).<sup>7</sup>

In Canada, the proportion of broadly defined non-standard employment grew in the early 1990s but has since stabilized. Between 1989 and 1994, the share of the workforce aged 15 and over engaged in at least one of part-time work,<sup>8</sup> temporary work,

**Figure 1: Measures of non-standard and contingent employment compared**





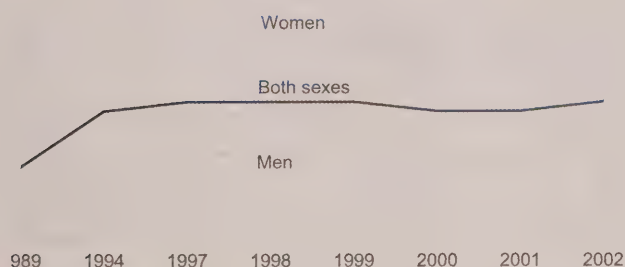
## Data sources

The **Labour Force Survey (LFS)** is a monthly household survey and has a sample size of approximately 53,000 households. It provides estimates on the labour force status and demographic characteristics of the civilian non-institutional population 15 years of age and older. The LFS has collected information on the temporary/permanent status of jobs since 1997.

The **General Social Survey (GSS)** is an annual household survey that gathers data on social trends to monitor changes in the living conditions and well-being of Canadians over time. It also provides immediate information on specific social policy issues. Cycles 4 and 9 of the GSS, collected in 1989 and 1994, were focused on education, work and retirement. These cycles contained questions—essentially the same as those in the current LFS—on the temporary nature of jobs, enabling an examination of changes in the distribution of non-overlapping indicators of precarious employment over a 13-year period.

own-account self-employment, or multiple jobholding grew from 28% to 34%. Since then, it has hovered around this level (Chart A).<sup>9</sup> Non-standard employment narrowly defined as part-time employment or temporary paid work followed the same trend. The pattern was similar for contingent or temporary employment. By 2001, the share of all employed people holding a job with a pre-determined end date had

**Chart A: Employed with non-standard employment relationship\***



Sources: General Social Survey, 1989 and 1994; Labour Force Survey, 1997 to 2002

\* One or more of part-time work, temporary work, own-account self-employment, or multiple jobholding.

reached 11%, up from 7% in 1989 (Chart B).<sup>10</sup> Women were more likely than men to engage in non-standard and contingent employment throughout the period.

These data illustrate a shift away from full-time, permanent jobs, mainly during the early 1990s. However, other studies have documented workers' experiences of increasing labour market insecurity (Broad 2000; Vosko 2000; Luxton and Corman 2001).

**Chart B: Employed with contingent or temporary employment relationship**



Sources: General Social Survey, 1989 and 1994; Labour Force Survey, 1997 to 2002

Although the share of temporary jobs has increased by just one percentage point since 1997, temporary employment has grown faster than permanent employment. Moreover, wage growth for temporary work has not kept up with that for permanent work (Tabi and Langlois 2003). This points to important qualitative differences among the wide range of non-standard employment situations as well as to a growing diversity of employment situations. For instance, the occupation and income profile of temporary help workers is very different from that of the self-employed (Hughes 1999; Vosko 2000). Furthermore, within the self-employed category, considerable differences exist between those who employ others and those who do not (Fudge, Tucker and Vosko 2002).

To better understand the nature and extent of precarious jobs, it is necessary to move away from grouping situations that are united only by their difference from the standard employment relationship. Because the non-standard categories are not mutually exclusive, it



is difficult to determine whether certain forms of employment have grown, and if so, how much their growth has contributed to employment insecurity. For example, part-time employment includes both employees and the self-employed (both own-account and employers), and any employed person can be a multiple jobholder. However, only employees can have a temporary job.

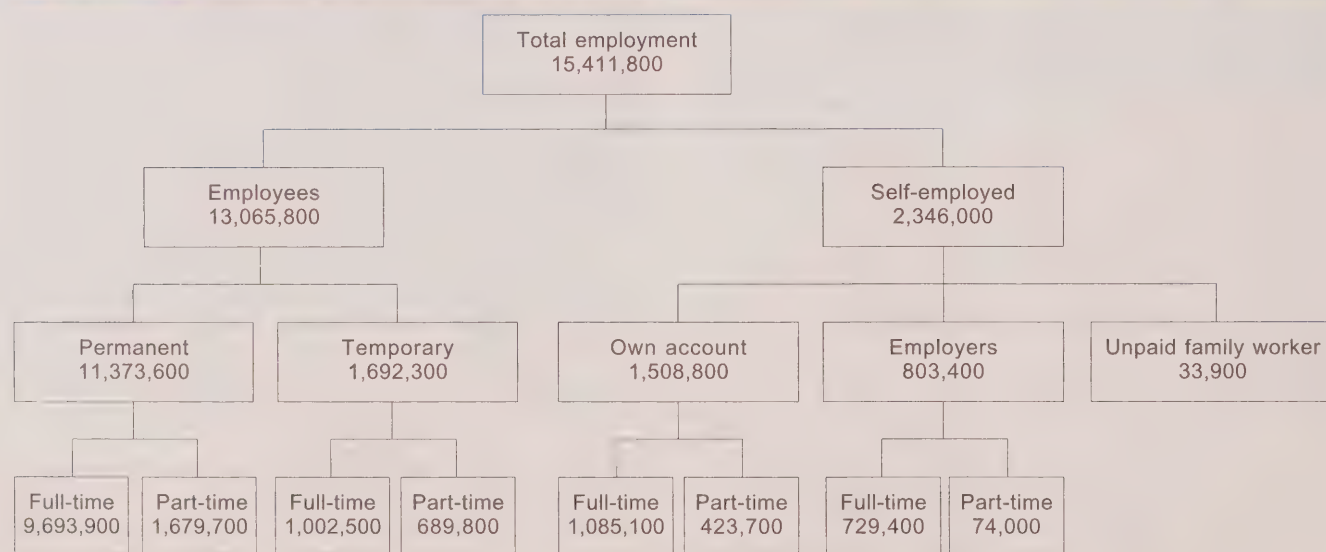
European researchers have advanced 'precarious employment' as an alternative to non-standard employment. One approach (Rodgers 1989) identifies four dimensions to establish whether a job is precarious. The first is the degree of certainty of continuing employment, emphasizing both time horizons and risk of job loss. Second is the notion of control over the labour process, linking this dimension to the presence or absence of a trade union and hence control over working conditions, wages and pace of work. The third dimension is the degree of regulatory protection—that is, whether the worker has access to an equivalent level of regulatory protection through union representation or the law. Fourth is the critical element of income. A given job may be secure in the sense that it is stable and long-term but precarious in that the wage may be insufficient to maintain the worker and any dependants.

## Toward an analysis of precarious employment

Breaking down the workforce into a typology of mutually exclusive forms of employment is one means of better understanding the heterogeneity inherent in the broad definition of non-standard employment (Figure 2). The first step differentiates employees from the self-employed. This distinction relates to one key dimension of precarious employment: degree of regulatory protection, since many self-employed are excluded from coverage under collective bargaining law and employment standards legislation (Fudge, Tucker and Vosko 2002). The self-employed are further distinguished by whether or not they have employees, since those without employees—the own-account self-employed—are arguably in a more precarious position than self-employed employers (Hughes 1999; Fudge, Tucker and Vosko 2002). The decomposition then addresses the degree of certainty of continuing paid work by categorizing employees by job permanency. The final step breaks down each employment form by part-time and full-time status.

Including part-time/full-time status is also instructive since eligibility for certain policies (for example, Employment Insurance) is hours-based, and hours of

**Figure 2: Decomposition of total employment into a mutually exclusive typology**



Source: Labour Force Survey, 2002

work are related to income and the ability to secure an adequate standard of living (Vosko 2003).<sup>11</sup> Between 2001 and 2002, part-time employment rose by 7.7%, nearly three times the annual growth recorded for full-time employment, while hourly pay for part-time work grew at only half the rate of full-time work (Tabi and Langlois 2003). While part-time work has become more common among both women and men, over the past 25 years women have consistently been much more likely than men to work part time (Statistics Canada 2002). Multiple jobholding is excluded from this mutually exclusive typology.<sup>12</sup>

Under this typology, the rise in non-standard employment in the early 1990s was fuelled by increases in own-account self-employment and full-time temporary paid work. Although employees with full-time permanent jobs still account for the majority of employment, this kind of work became less common,

dropping from 67% in 1989 to 64% in 1994 and 63% in 2002 (Table 1). Self-employment grew in the 1990s, peaking in the latter part of the decade, and falling after 1998. The decline was largely caused by self-employed employers; their share of the employed labour force went from 7% in 1989 to 5% in 2002. In contrast, own-account self-employment went from 7% to 10% of the employed labour force.

The share of the employed labour force with temporary jobs rose slightly in the 1990s. The growth was fuelled by full-time temporary jobs, which rose from 4% of all jobs in 1989 to 7% in 2002.

The general shift away from full-time permanent employment affected women and men differently, even though increases in full-time temporary paid work and own-account self-employment were observed for both sexes. Overall, the absolute decline in full-time permanent jobs was slightly greater for men, but men

**Table 1: Typology of mutually exclusive employment categories by sex**

	1989	1994	1997	1998	1999	2000	2001	2002
					'000			
<b>Total employed*</b>	<b>12,669</b>	<b>13,035</b>	<b>13,775</b>	<b>14,140</b>	<b>14,531</b>	<b>14,910</b>	<b>15,077</b>	<b>15,412</b>
<b>Men</b>	<b>7,060</b>	<b>7,193</b>	<b>7,508</b>	<b>7,661</b>	<b>7,866</b>	<b>8,049</b>	<b>8,110</b>	<b>8,262</b>
<b>Women</b>	<b>5,609</b>	<b>5,841</b>	<b>6,266</b>	<b>6,479</b>	<b>6,665</b>	<b>6,860</b>	<b>6,967</b>	<b>7,150</b>
<b>% of total employment</b>								
<b>Employees</b>								
Full-time permanent	67	64	62	62	62	63	63	63
Men	71	67	65	65	65	66	66	66
Women	63	61	58	58	58	59	60	59
Full-time temporary	4	5	6	6	6	6	6	7
Men	4	5	6	6	6	7	7	7
Women	3	4	5	6	6	6	6	6
Part-time permanent	11	12	12	11	11	11	11	11
Men	5	6	6	5	5	5	5	5
Women	19	19	19	18	18	17	17	17
Part-time temporary	3	3	4	4	4	4	4	4
Men	2	2	3	3	3	3	3	3
Women	4	3	5	5	5	6	6	6
<b>Self-employed</b>								
Employer	7	6	6	6	6	6	5	5
Men	10	8	8	8	8	8	7	7
Women	4	3	3	3	3	3	3	3
Own account	7	10	11	11	11	10	10	10
Men	8	10	12	12	12	12	11	11
Women	6	9	9	9	9	9	8	8

Sources: General Social Survey 1989 and 1994; Labour Force Survey, 1997 to 2002

\* Totals for 1997 to 2002 include unpaid family workers.

were still more likely than women to have this standard form of employment in 2002 (66% of employed men versus 59% of employed women).

The percentage of employed men who were own-account self-employed increased while the percentage self-employed employers declined, suggesting that more men were engaging in precarious self-employment. However, for men, most self-employment is full-time, and accordingly less precarious along that dimension.

The widely documented over-representation of women in part-time jobs is true of both employees and the self-employed. In 2002,

**Table 2: Part-time employment rates**

	Total	Employees			Self-employed		
		Total	Perma- nent	Tempo- rary	Total*	Employer	Own- account
<b>Both sexes</b>				%			
2002	19	18	15	41	22	9	28
1997	19	19	16	39	21	8	29
1994	19	19	15	34	21	8	29
1989	17	16	14	43	19	7	27
<b>Men</b>							
2002	11	10	7	31	13	5	18
1997	11	10	8	29	12	4	17
1994	11	11	8	28	12	4	18
1989	9	9	6	32	10	4	16
<b>Women</b>							
2002	28	26	23	50	38	21	44
1997	29	28	25	49	39	20	46
1994	29	28	24	42	39	20	45
1989	27	26	23	54	39	18	46

Sources: Labour Force Survey; General Social Survey (figures in italics)

\* Includes unpaid family workers for 1997 and 2002.

**Table 3: Typology of mutually exclusive employment forms by sex and age**

	15 and over		15 to 24		25 to 54		55 and over	
	Men	Women	Men	Women	Men	Women	Men	Women
<b>Total</b>	'000							
1989	7,060	5,609	1,151	1,091	5,041	3,986	869	532
2002*	8,262	7,150	1,209	1,158	5,993	5,279	1,060	713
<b>Full-time</b>	% of total employment							
<b>Permanent</b>								
1989	71	63	58	53	76	66	57	57
2002	66	59	45	35	73	66	53	51
<b>Temporary</b>								
1989	4	3	6	5 <sup>E</sup>	3 <sup>E</sup>	3	5	F
2002	7	6	14	11	6	5	5	4
<b>Part-time</b>								
<b>Permanent</b>								
1989	5	19	21	30	1 <sup>E</sup>	16	F	22
2002	5	17	22	32	2	14	5	19
<b>Temporary</b>								
1989	2	4	7 <sup>E</sup>	7 <sup>E</sup>	F	3	F	F
2002	3	6	14	18	1	4	2	5
<b>Self-employed</b>								
<b>Employer</b>								
1989	10	4	F	F	11	4	18	6 <sup>E</sup>
2002	7	3	F	F	7	3	13	6
<b>Own account</b>								
1989	8	6	5 <sup>E</sup>	F	8	7	14	10 <sup>E</sup>
2002	11	8	3	4	11	8	22	15

Sources: General Social Survey, 1989; Labour Force Survey, 2002

\* Includes unpaid family workers.

some 44% of own-account self-employed women worked part time, compared with just 18% of their male counterparts (Table 2). The work of women part-time employees also became more precarious as the share with temporary work grew slightly.

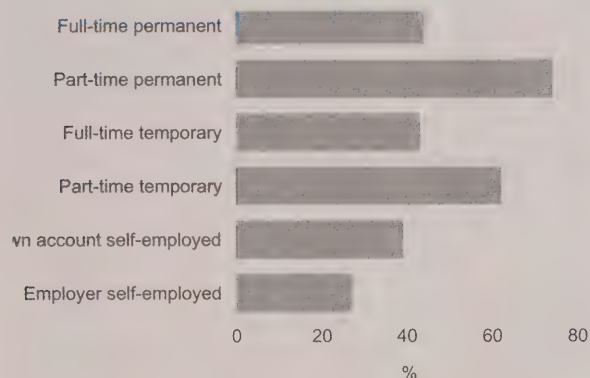
The young are more likely to be in precarious employment than those at the peak of their careers (Table 3). Among working youth, the likelihood of temporary employment grew between 1989 and 2002 while the percentage with full-time permanent jobs declined.<sup>13</sup> The share of employed women aged 15 to 24 with a full-time permanent job fell from 53% in 1989 to 35% in 2002; for young men, the percentage fell from 58% to 45%. During this period, participation in postsecondary education increased markedly among 15 to 24 year-olds.

The majority of workers in the part-time forms of paid work are women. In 2002, women



accounted for over 6 in 10 of those with part-time temporary jobs and for nearly three-quarters of part-time permanent employees (Chart C). In contrast, men accounted for the majority of self-employed employers, own-account workers, and full-time employees, either temporary or permanent. Women made up the majority of casual temporary employees, most of whom work part time, while men dominated seasonal forms of temporary paid work, most of which is full-time. (Chart D).

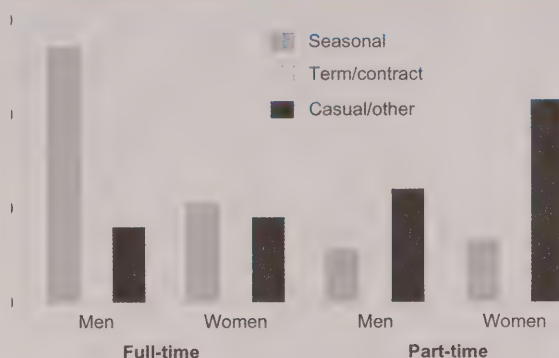
**Chart C: Women's share of forms of employment by full- and part-time status**



Source: Labour Force Survey, 2002

However, many young men are employed alongside women of all ages in employment situations that are neither full-time nor permanent (Chart E). For example, 16% of part-time permanent employees were men aged 15 to 24, while 22% were young women. Nevertheless, 43% of all part-time permanent workers were women aged 25 to 54, compared with only 8% for men aged 25 to 54. Still, full-time permanent jobs and full-time employer self-employment—situations that are relatively more secure—were dominated by men aged 25 to 54. In 2002, these men accounted for nearly half of all full-time permanent employees and

**Chart D: Types of temporary work**

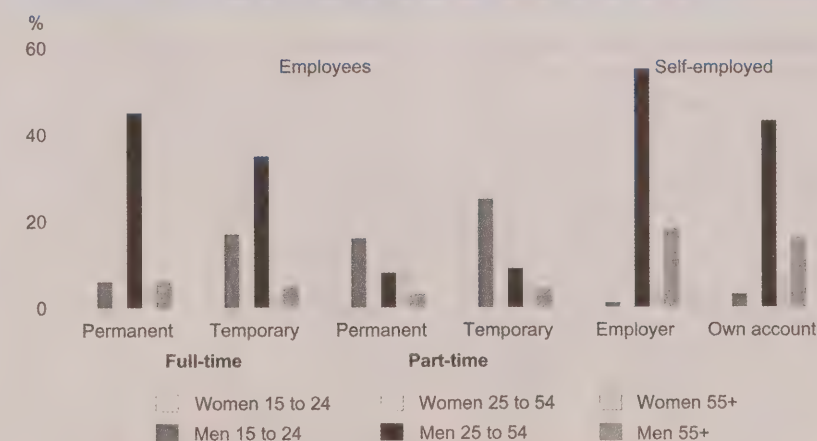


Source: Labour Force Survey, 2002

60% of full-time, self-employed employers. Very few men aged 25 to 54 engaged in any form of part-time employment.

The distribution of different employment forms across broad industry groups is markedly different for men and women (Table 4). In general, men are more likely than women to find full-time paid jobs and self-employment in the goods-producing sector. In 2002, 40% of men with full-time permanent jobs worked in goods-producing industries compared with just 16%

**Chart E: Forms of employment**



Source: Labour Force Survey, 2002

of women. The figures were similar for full-time temporary jobs and both forms of full-time self-employment. The largest proportion of men with full-time permanent jobs worked in manufacturing (27%) and the largest proportion with full-time temporary jobs in construction (21%). However, the most common industry of employment for men engaged in either form of self-employment was business services.

In sharp contrast, social services was the most common industry of employment for female employees—34% of part-time temporary jobs, 30% of part-time permanent and full-time temporary jobs, and 28% of full-time permanent jobs were concentrated in this sector. Like men, many own-account self-employed women were employed in business services, while the largest proportion of women self-employed employers worked in 'other consumer services,' a category that includes civic organizations, repair and maintenance services, and other personal services such as laundry, hair care and esthetic services.

## Conclusion

Non-standard work, defined as part-time work, temporary work, own-account self-employment, or multiple jobholding grew in the early 1990s but has since stabilized. This does not correspond with studies documenting workers' experiences of increasing insecurity, suggesting that the broad definition of non-standard employment is too heterogeneous to reflect aspects of precarious employment. A mutually exclusive typology of employment forms indicates that the rise in non-standard

**Table 4: Form of employment by industry and sex**

	All industries	Goods-producing	Agriculture	Natural resources	Manufacturing	Construction	
	'000			%			
<b>Total*</b>							
Men	8,262	36	3	4	20	10	
Women	7,150	13	1	1	9	1	
<b>Full-time</b>							
Permanent							
Men	5,461	40	1	4	27	7	
Women	4,233	16	F	1	13	1	
Temporary							
Men	573	45	3	8	13	21	
Women	429	16	2	2	10	1 <sup>E</sup>	
<b>Part-time</b>							
Permanent							
Men	442	9	1 <sup>E</sup>	F	5	2 <sup>E</sup>	
Women	1,238	4	1 <sup>E</sup>	F	2	1	
Temporary							
Men	261	13	3 <sup>E</sup>	1 <sup>E</sup>	5	4	
Women	429	5	1 <sup>E</sup>	F	2	1 <sup>E</sup>	
<b>Self-employed</b>							
Employer							
Men	590	32	6	3	8	16	
Women	213	17	6	1	6	4	
Own account							
Men	923	35	12	2	3	18	
Women	585	10	6	1	2	2	
	<b>Service-producing</b>	Distributive services	Business services	Social services	Public administration	Retail trade	Other consumer services
				%			
<b>Total*</b>							
Men	64	12	15	8	5	10	13
Women	87	5	17	28	5	14	18
<b>Full-time</b>							
Permanent							
Men	60	13	13	8	7	9	11
Women	84	6	18	28	7	12	14
Temporary							
Men	55	7	14	10	6	6	13
Women	84	3	15	30	12	7	17
<b>Part-time</b>							
Permanent							
Men	91	8	11	10	2	30	31
Women	96	3	11	30	2	25	25
Temporary							
Men	87	6	12	16	3 <sup>E</sup>	21	30
Women	95	3	9	34	3	20	26
<b>Self-employed</b>							
Employer							
Men	68	9	24	7	0	12	15
Women	83	7	20	12	0	20	24
Own account							
Men	65	13	28	4	0	6	15
Women	90	3	29	23	0	8	27

Source: Labour Force Survey, 2002

\* Includes unpaid family workers.

employment in the early 1990s was fuelled by increases in own-account self-employment and full-time temporary paid work. Although employees with full-time permanent jobs still account for the majority of employment, such work has become less common.

The general shift away from full-time permanent employment has affected women and men differently as evidenced by women's continued over-representation in part-time work and an increased prevalence of the own-account form of self-employment among men. Young men tend to be employed alongside women of all ages in employment situations that are neither full-time nor permanent. The distribution of different employment forms across broad industry groups is also different for women and men. Men are more likely than women to work full time in the goods-producing sector, while social services is the most common industry of employment for all categories of women employees.

This study highlights the differing ways men and women interact with the labour market and how these interactions are changing. Further research that includes immigrant and visible minority status would also improve our understanding of precarious employment by facilitating analyses of men who are experiencing downward pressure and exploring inequalities among groups of women and men (Das Gupta 1996; Cranford 1998; Morissette 1997; PSC 1999; Vosko 2000; Statistics Canada 2003).

Greater attention could also be paid to variations within self-employment. Self-employment is often pointed to as an example of entrepreneurial initiative and innovation in an increasingly competitive, privatized and globalized market as well as a means of securing alternative or 'flexible' work arrangements, especially for women seeking to reconcile the demands of paid employment and family responsibilities (Hughes 1999; Arai 2000; Fudge, Tucker and Vosko 2002; Vosko 2002). However, a gender-based analysis would allow for a fuller understanding of the precariousness experienced by many self-employed workers. Multivariate analysis could also shed light on the relative importance of various dimensions of precarious employment and the effects of their interaction.

This research is the product of a community university research alliance on contingent work funded by the Social Sciences and Humanities Research Council of Canada. The authors gratefully acknowledge the Council for its generous financial support and John Anderson, Pat Armstrong, Judy Fudge, Kate Laxer and other members of the research alliance for their input on earlier versions of this article.

## ■ Notes

- 1 *Sex* identifies the biological differences between women and men. Sex is a variable collected on most Statistics Canada surveys, and data are routinely disaggregated by sex. *Gender* is the culturally specific set of characteristics that identifies the social behaviour of women and men and the relationship between them. Gender, therefore, refers not simply to women and men, but to the relationship between them, and the way it is socially constructed. Because it is a relational term, gender must include women and men. Like concepts of class, race and ethnicity, gender is an analytical tool for understanding social processes. For more information, see Status of Women (1998).
- 2 Prior to 1997, part-time employment was defined as less than 30 hours per week at all jobs. Since 1997, it refers to hours at a main job.
- 3 With the 1989 GSS, Krahn was able to measure part-year work, defined as a main job that typically lasts nine months or less per year. This question was not asked on the 1994 GSS. However, most employees whose jobs last less than nine months per year, such as seasonal workers, are included in the definition of temporary employment. Only those in self-employment for less than nine months per year would be excluded from the temporary category.
- 4 As with the Canadian measure of job permanency, this definition excludes the self-employed.
- 5 Although job tenure data are available in Canada, no information is collected on expected tenure beyond the general indicator of permanent or temporary.
- 6 It is impossible to produce Canadian estimates of this last measure because Statistics Canada surveys do not ask self-employed workers about job permanency.
- 7 In 1999, the Survey of Labour and Income Dynamics added a question about job permanency, making this a future source of information about all four employment situations within the broad definition of non-standard work.

## Perspectives



8 The 1989 and 1994 GSS estimates of part-time work have been revised to match the new LFS definitions.

9 Reported differences are significant at the 0.05 level. Standard deviations are available from the authors.

10 Most temporary workers in Canada have job tenure of one year or less, and consequently belong to Polivka's more restrictive definition of contingent work. See also Grenon and Chun (1997).

11 Statistics Canada defines part-time employment as less than 30 hours per week. Access to statutory benefits and other employer-paid benefits do not necessarily correspond to this cut point.

12 The mutually exclusive typology refers to the characteristics of a person's main or only job. Multiple jobholding is a work arrangement that refers to characteristics of a person's employment situation.

13 The share of employed youth with temporary jobs doubled between 1989 and 2002. However, the 1989 estimates have high sampling variability and should be used with caution.

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## Speaking of job stability...

The approach presented in *Precarious jobs: A new typology of employment* to measure the stability or precariousness of jobs can be termed a structural approach. A number of categories that are assumed to be related to less stable job characteristics are defined and then the trends within those categories are explored.

But the characteristics of a job can change over time. Temporary jobs may be used as screening devices to find high-quality, permanent employees. Part-time jobs can morph into full-time jobs. Self-employed contractors may become employees of their clients. Thus, an alternative measure that looks simply at the current duration (or tenure) of jobs may shed a different light on job stability.

Job tenure, however, is very sensitive to cyclical and demographic variations since newly created jobs and young labour market entrants always affect the number of short tenure jobs. But successive cross-sections of job tenure, such as are available from the Labour Force Survey, enable the calculation of the probability that jobs of various tenure will continue for another period (for example, a month or a year). The resultant retention rates control for the cyclical and demographic variation inherent in the tenure distribution.

An examination of retention rates from 1977 to 2001 shows little change in job stability between the beginning and end points; however, a closer look at the data reveals two phases. The period 1977 to 1993 was characterized by declining job stability, particularly for jobs with initial tenure of less than one year. The second phase, 1993 to 2001, saw a reversal of this trend such that by the end of the period jobs of all lengths were equally as stable as in the late 1970s. In all, there was no period-long trend towards declining job stability among any age, sex or education group.

For more information see *The evolution of job stability in Canada: Trends and comparisons to U.S. results* by Andrew Heisz. Statistics Canada. Analytical Studies Branch. Research Paper Series no. 162. Catalogue no. F0019MIE. 2002.



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# What's new?

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### ■ JUST RELEASED

#### ■ ***Self-employment and productivity growth in Canada and the U. S.***

Almost all the difference in the growth in labour productivity between Canada and the United States during the 1990s can be attributed to bigger gains in self-employment in Canada, combined with the poorer income performance of self-employed individuals.

During this 10-year period, self-employment accounted for the majority of job growth in Canada. However, at the same time, earnings per worker in the self-employed sector were well below those in other sectors, and these earnings fell increasingly, relative to those of others.

The combination of strong growth in self-employment and weak growth in self-employed net income put downward pressure on the growth in aggregate labour productivity in Canada's business sector.

In contrast, south of the border, the growth in net income of the self-employed in the United States outpaced overall productivity growth in the business sector during the 1990s.

As a result, when self-employed income is removed from the business sector and labour productivity measures are recalculated, the gap in the growth of labour productivity between Canada and the United States virtually disappears.

Self-employment affected labour productivity because of its rapid growth. From 1990 to 1998, 55% of Canada's total net job growth came from self-employment. In Canada, the share of self-employment was 4% to 5% higher than in the United States, while net income per each self-employed person was at least 50% lower.

For more information, see *The Impact of Self-employment on Labour Productivity Growth: A Canada and United States Comparison* (Catalogue no. 11F0027MIE2003016), in the **Studies** module on the Statistics Canada's Web site ([www.statcan.ca](http://www.statcan.ca)), or contact John Baldwin, Micro-Economic Analysis Division, at (613) 951-8588.

#### ■ ***Income of individuals***

From 1997 to 2001, median total income in Canada increased by 8%, after adjustment for inflation. This increase was most evident in Nunavut, New Brunswick and the Northwest Territories. As a result, median total income in the Northwest Territories remained the highest in Canada at \$30,800 in 2001. Yukon followed at \$28,100, ahead of Ontario and Alberta at \$24,900 and \$24,500 respectively.

Total income is derived from many different sources, one of which is self-employment. More women and fewer men reported self-employment income in 2001 compared with 1997. Although the net amounts earned by these women increased, self-employed men still earned more. In 2001, men earned \$18,300 from self-employment, while women earned \$10,500.

Women reporting earnings from self-employment grew 7% from 1997 to 2001, more than the increase in the female working-age population (6%). The number increased in every province and territory except the Northwest Territories, where it remained relatively stable compared with 1997. As a result, 1,027,700 women reported self-employment in 2001.

The average net amount earned through self-employment by women increased 17% over this same period, after adjustment for inflation. Increases were found in all provinces and territories, ranging from 2% in Saskatchewan to 49% in Nunavut.

Self-employment among men dropped by 1% from 1997 to 2001 to a total of 1,556,600. This occurred despite an increase in the male working-age population (6%). Male self-employment declined in all provinces and territories except Ontario, which had a 3% increase.

At the national level, average net dollars earned by men through self-employment rose 12% from 1997 to 2001. However, the average declined in Nova Scotia (-1%), Saskatchewan (-5%) and Nunavut (-24%). The Northwest Territories, Newfoundland and Labrador, Yukon and Quebec had the greatest increases between 1997 and 2001.

For more information, contact Client Services, Small Area and Administrative Data Division, at 1 866 652-8443 or (613) 951-9720; fax: 1 866 652-8444 or (613) 951-4745; [saadinfo@statcan.ca](mailto:saadinfo@statcan.ca).

### ■ *Family income*

Median total income for families increased 8% from 1997 to 2001, after adjustment for inflation. Nunavut had the largest increase at 13%, followed by the Northwest Territories, Alberta and Newfoundland and Labrador.

The increase to \$44,800 in Nunavut happened mostly between 2000 and 2001, a turnaround from previous years when median total income declined. However, this still left Nunavut well below the Northwest Territories, which was highest among all provinces and territories in 2001, at \$70,300. Yukon followed at \$61,000 and Alberta at \$59,900.

From 2000 to 2001, median total income increased for both couple families and single-parent families in all provinces and territories—a once-only occurrence between 1997 and 2001. In 2001, the median for couple families reached \$59,600, and \$27,200 for lone-parent families.

Among census metropolitan areas, Edmonton saw the highest increase in median family total income, (11.8%). Next came Ottawa-Gatineau (11.0%), Calgary (10.0%), St. John's (9.6%), and Kitchener (8.5%).

For 2001, Ottawa-Gatineau topped the ranking at \$68,500, followed by Oshawa at \$67,700 and Windsor at \$65,600. Calgary gained ground in 2001. Its median of \$65,100 moved it ahead of Kitchener, at \$63,400.

For more information, contact Client Services, Small Area and Administrative Data Division, at 1 866 652-8443 or (613) 951-9720; fax: 1 866 652-8444 or (613) 951-4745; [saadinfo@statcan.ca](mailto:saadinfo@statcan.ca).

### ■ *New country, new jobs*

Between October 2000 and September 2001, an estimated 164,200 immigrants aged 15 years and older arrived as permanent residents.

Starting a new life in Canada was not without obstacles. Most immigrants reported some difficulties finding employment: 70% identified at least one problem, such as transferability of foreign qualifications, lack of contacts, or language barriers.

Within a relatively short period of time, 44% (or 72,100) of newcomers had found employment. Of these, 8 in 10 worked full time.

In total, 114,400 new immigrants were in the labour force—a 70% participation rate. The rate was even higher among new arrivals aged 25 to 44 years (78%), but slightly lower than the equivalent age group of the total population recorded in the Labour Force Survey (86%).

Immigrants in the 25-to-44 age group had the highest employment rate. Half were employed six months after landing, compared with 36% of those aged 15 to 24 years, and 35% of those aged 45 to 64 years.

Similarly, newcomers admitted as principal applicants in the economic class had a higher employment rate (59%) than those admitted in the family class (39%) or as a spouse or dependant in the economic class (34%).

Official language skills also influenced the employment of newcomers. Over half (52%) of immigrants aged 25 to 44 years who could converse in English or French were employed at the time of the survey, compared with only one-third (33%) of those who had no knowledge of either language.

Of the newcomers who were employed at the time of the survey, 6 in 10 did not work in the same occupational field as they did before immigrating.

Those working six months after coming to Canada were most often employed in sales and service or processing and manufacturing occupations. Prior to immigration, the two most common occupational groups for men were natural and applied sciences, and



management; for women, they were business, finance and administration, as well as social science, education, government services and religious occupations.

For many immigrants, employment during the initial months after moving to Canada may have been transitory. Some immigrants were still in the process of pursuing occupations for which they were trained.

Three-quarters of new arrivals had at least one type of foreign credential. For these immigrants, the most critical hurdles faced when trying to find employment were lack of Canadian experience and difficulty in transferring their qualifications. Each of these obstacles was cited by 26% of newcomers who had foreign credentials and reported at least one problem entering the labour market.

For more information, see *Highlights of the Longitudinal Survey of Immigrants to Canada, 2000-2001* (Catalogue no. 89-611-XIE) in the **Studies** module on the Statistics Canada's Web site ([www.statcan.ca](http://www.statcan.ca)).

### ■ A route to innovation

Companies that use a wide range of positive human resources practices are more likely to innovate than firms using fewer or none of these practices. Not only are they more likely to innovate, they are also likely to launch an innovation that is a first in the market as opposed to one simply new to their firm.

The probability of introducing an innovation is highest when firms use practices from three human resource management areas: training; employee involvement practices, such as information sharing, flexible job design and self-directed work groups; and compensation methods, such as individual incentives and profit-sharing.

Innovation is also most frequent when many practices are used intensively—for example, worker training.

Using more human resources management practices makes the relationship with innovation stronger. For example, a firm has a 32% probability of being a first-to-the-market innovator when it uses more than six such practices, an 11% probability when using three or fewer practices, and only a 4% probability if none are adopted.

Other factors that display a positive association with innovation are international competition, at least in the manufacturing sector, and foreign ownership in the non-manufacturing sector.

A firm's innovation performance results from complex and dynamic interactions between its own internal innovation capacity and external expertise. From an internal point of view, a firm must retain its key workers and keep them highly motivated to assure continuity in the knowledge accumulation process, which is critical for innovation. To do so, a firm may use financial (compensation pay) as well as non-financial benefits (employee involvement practices and training) to provide a more stimulating environment.

For more information, see *The Evolving Workplace Series: Empowering Employees: A Route to Innovation*, no. 8 (Catalogue no. 71-584-MIE) in the **Studies** module on the Statistics Canada's Web site ([www.statcan.ca](http://www.statcan.ca)).

### ■ Working hours in Canada and the U.S.

Americans aged 16 to 69 increasingly worked more hours than Canadians throughout the 1990s. This was likely related to the relatively sluggish economic growth in Canada during much of the 1990s.

Hours per person was defined as the average number of hours worked by the working-age population, which includes working and non-working individuals aged 16 to 69. In 1979, average hours worked per year differed little between Canada and the United States. In that year, working-age Canadians worked 1,260 hours per year, compared with 1,279 for Americans.

Hours grew in both countries in the 1980s, but differences were still small in 1989, as Canadians worked 1,354 hours compared with 1,380 for Americans.

By 2000, Americans were working 1,455 hours on average during the year, much more than the 1,332 hours supplied by Canadians.

Over the same period, working hours in some other countries declined. For example, comparable data from the Organisation for Economic Co-operation and Development show that hours per person fell 18% in Germany and 20% in France from 1979 to 1999.

From 1979 to 2000, hours per worker grew 2% in Canada, from 1,669 to 1,706 per year. In contrast, hours per worker grew 10% in the United States, from 1,707 to 1,871.



Both countries experienced comparable growth in average working hours per (working-age) person from 1979 to 1989. During this period, average annual hours per person rose 7.9% in the United States and 7.5% in Canada.

Hours increased primarily because of a rise in hours supplied by women. American women worked 20.1% more hours in 1989 than in 1979, compared with 25.5% for Canadian women.

Another factor accounting for rising hours in both countries is the relative increase of prime-aged (25 to 54) workers. This is because prime-aged individuals tend to supply more hours than younger or older individuals.

Most of the current gap between Canada and the United States opened up during the first part of the 1990s. From 1989 to 1993, hours per person fell 8% in Canada compared with 1% in the United States. From 1993 to 2000, growth in work hours was equal in both countries, at 7%. Overall, from 1989 to 2000, hours per person in the United States grew 5%, while Canada saw a drop of 2%.

Fewer working hours could mean more leisure, less stress, and higher quality of life for some. It may signal that Canadians are retiring earlier, staying in school longer, or making different choices about how to allocate family and work time. However, it may also indicate less demand for labour, suggesting that Canadians did not work as many hours as they wanted.

The widening of the gap primarily during the early 1990s suggests that the main reason was the relatively deeper recession in Canada followed by a sluggish recovery, which kept Canada's unemployment rate much higher than the U.S. rate. Hence, much of the gap was likely associated with weaker labour demand rather than a decision by Canadians to pursue more leisure.

From 1999 to 2000, during which Canada's unemployment rate among prime-aged men improved markedly relative to the United States, the working hours gap for this group also improved, dropping 25% from 187.5 hours per year to 138.4.

From 1979 to 2000, hours per person rose in the United States relative to Canada for all age-sex groups except prime-aged women. Canadian women in this age group boosted their hours by 40% compared with

34% for American women. However, prime-aged women still worked less in Canada in 2000, supplying 1,351 hours on average, compared with 1,465 by their American counterparts.

This increase in working hours among women, coupled with declining hours for men, led to a narrowing of the hours differential between men and women. In 1979, Canadian women aged 25 to 54 worked 48% as many hours as their male counterparts. By 2000, the figure was 71%. Similarly, American women narrowed the hours difference with American men.

For more information, see *Working Hours in Canada and the United States* (Catalogue no. 11F0019MIE 2003209) in the **Studies** module on the Statistics Canada's Web site ([www.statcan.ca](http://www.statcan.ca)), or contact Andrew Heisz at (613) 951-3748 or Sébastien LaRoche-Côté (613) 951-0803, Business and Labour Market Analysis Division.

## ■ Labour productivity

In spite of many obstacles to economic growth, labour productivity increased a slight 0.1% between the first and second quarters of 2003. This marginal improvement continued the lethargic pace of labour productivity growth of the past four quarters.

During the three preceding quarters, the growth of hours worked was greater than or equal to output growth, resulting in declining or stagnating productivity. In the second quarter, quarterly growth in labour productivity increased slightly as a result of a decline in output combined with a slightly more pronounced decline in hours worked. Businesses reacted quickly to the decline in the demand for goods and services by decreasing employment.

Output and hours worked in the second quarter both declined for the first time since the third quarter of 2001, a period corresponding to the events of September 11. The magnitude of the decline in output and hours worked was very similar in the two periods.

Economic output in the business sector declined 0.5% in the second quarter, as the effects of SARS, mad cow disease, and the stronger Canadian dollar rippled through the economy. At the same time, the number of hours worked in the business sector fell 0.6%. The declines halted a string of six straight quarterly gains in output and employment.

Economic output in the business sector south of the border increased 1.0% in the second quarter, in the wake of higher consumer spending and a return to growth in business investment.

The number of hours worked in the U.S. business sector declined 0.7%, virtually the same drop as in Canada. Except for a slight increase of 0.1% in the fourth quarter of 2002, the number of hours worked in the United States has been declining steadily since the second quarter of 2001.

As a result of greater output growth, productivity growth in the United States in the second quarter surpassed that of Canada's business sector for the fourth straight quarter. American businesses increased their productivity 1.8% from the first quarter, an increase substantially larger than Canada's gain of 0.1%.

After decelerating gradually since the third quarter of 2001, unit labour costs increased at a faster pace in the first two quarters of 2003. On an annual basis, unit labour costs of Canadian businesses continued to grow in the second quarter. In contrast, unit labour costs in American businesses started declining again in the second quarter after increasing slightly in the first. Apart from this first-quarter increase, unit labour costs have declined in the United States since the fourth quarter of 2001.

American businesses enjoy an even larger advantage when the unit labour cost estimate is adjusted for the change in the exchange rate. As a consequence of the abrupt increase (10%) in the value of the Canadian dollar in the second quarter compared with the same quarter of 2002, the gap in unit labour costs between the two countries widened in favour of the United States. Measured in American dollars, unit labour costs in Canada rose a dramatic 14% from the second quarter of 2002, compared with a decline of 1% in the United States.

For more information, see the *Canadian Economic Accounts Quarterly Review* (Catalogue no. 13-010-XIE) on the Statistics Canada's Web site ([www.statcan.ca](http://www.statcan.ca)). From the *Our products and services* page, under *Browse our Internet publications*, choose *Free*, then *National accounts*, or contact Jean-Pierre Maynard, Micro-Economic Analysis Division, at (613) 951-3654; fax: (613) 951-3292; [maynard@statcan.ca](mailto:maynard@statcan.ca).

## ■ *Employer pension plans (trusteed pension funds)*

Falling stock prices again took their toll on the value of assets in employer pension plans, which fell 5% in the first quarter. This in turn has forced employers to continue to make large contributions to them.

As of March 31, 2003, the value of assets in these funds amounted to \$518.2 billion, down from \$543.8 billion at the end of the fourth quarter of 2002, and 16% below the peak of \$614.4 billion in the third quarter of 2000. Since then, the value of assets in these funds declined in 7 out of 10 quarters.

The declines were due to falling stock prices that resulted in a devaluation of fund assets. This devaluation forced employers to increase their contributions, halting a 'contribution holiday' period for many funds that had lasted up to four years.

Employer contributions in the first quarter of 2003 amounted to \$3.3 billion, down 18% from \$4.0 billion in the fourth quarter of 2002. However, total employer contributions for 2003 are expected to match or exceed the previous year's level of \$12.6 billion. In 2001, employer contributions amounted to just \$7.3 billion.

The industry experienced another quarter with a negative cash flow. Expenditures of \$14.6 billion in the first three months of 2003 exceeded revenues of \$10.2 billion. Collectively, trusteed funds have not had a positive cash flow since the first quarter of 2002.

Negative cash flows can result from losses on the sale of stocks. The industry has been selling off devalued stock in efforts to rebalance their portfolios towards longer-term value.

At the end of 2000, trusteed pension plans, which are managed by legal trustees who invest the funds in financial and capital markets, had 3.5 million members. This level likely has not changed greatly since then.

In total, about 5.5 million Canadian workers are members of employer pension plans, which include trusteed plans as well as others.

The 3.5 million members had assets of \$596.6 billion at the end of 2000, whereas all registered pension plan members had assets totalling \$817.6 billion.



For more information, contact Client Services, Income Statistics Division, at 1 888 297-7355 or (613) 951-7355; fax: (613) 951-3012; [income@statcan.ca](mailto:income@statcan.ca).

### ■ *Household Internet use*

After surging during the late 1990s, the growth in Internet use among Canadian households has levelled off.

In 2002, an estimated 7.5 million households had at least one member who used the Internet regularly, either from home, work, school, a public library or another location, up only 4% from 2001. These households accounted for 62% of the nearly 12.2 million households in 2002, a slight increase from the previous year.

Households with high income, members active in the labour force, children still living at home, and members with higher levels of education have been in the forefront of Internet adoption.

In 2002, about one-quarter of households that reported regular home use indicated that at least one member used the Internet for work-related business—nearly 1.6 million households, up from less than 1.5 million in 2001. About one million households reported that at least one member regularly used the Internet at home for purposes of self-employment in 2002—unchanged from 2001.

Almost one-fifth of regular home use in 2002 was by employees taking advantage of the Internet to work scheduled hours at home. This was also relatively unchanged from 2001.

Although households with the highest incomes still have the highest penetration rates, Internet use continues to make gains among households in the lowest income level. The Household Internet Use Survey divides households into four equal groups based on income, from highest to lowest.

In 2002, 78% of households in the highest income group had a member who used the Internet from home. The figure five years earlier was 33%. Households in the second highest income group exhibited the largest increase in Internet use from home, rising from 56% of households in 2001 to 62% of households in 2002.

In contrast, among the households in the lowest income group, only 25% had a member who used the Internet from home. However, this proportion had increased five times from only 5% in 1997.

Rates of Internet use still varied substantially across family types, with children still a key factor. Single-family households with unmarried children under the age of 18 had the highest rate of Internet use in 2002 from any location, about 81%, compared with 38% in 1997.

In 2002, about 3.8 million Canadian households had never used the Internet. Most (85%) were either families without children or one-person households. As well, many of these non-users earned below-average household income, with 47% in the lowest group.

For more information, contact Jonathan Ellison (613-951-5882; [jonathan.ellison@statcan.ca](mailto:jonathan.ellison@statcan.ca)), Science, Innovation and Electronic Information Division.

### ■ *Government revenue from tourism*

Tourism generated \$13.8 billion of revenue in Canada in 1998 for all three levels of government combined—about 30 cents for every dollar tourists spent in Canada (\$45.9 billion in 1998). Tourism accounted for 4% of all government revenue in 1998, 2% of gross domestic product, and 4% of all jobs.

The federal government took in \$6.8 billion from tourism. Provincial and territorial governments received almost as much, \$6.2 billion. Municipal governments collected only \$0.8 billion. Taxes on products, for example the goods and services tax (GST) and provincial sales taxes, were the single largest source of revenue from tourism. Income taxes (on employment income and business profits) were the second most important. Property taxes were the main source of tourism revenue for municipal governments.

Among industries, air transportation and accommodation generated the most tourism revenue for government. These two industries each accounted for \$1.3 billion in income taxes, other taxes on production, and contributions to social insurance plans. Among commodities, fuel, recreation and entertainment, were the most important sources of tourism revenue for governments. Tourist purchases of these commodities accounted for \$3.2 billion in taxes on products.



For further reading, see *Government Revenue Attributable to Tourism, 1998* (Catalogue no. 13-604-MIE2003041) on Statistics Canada's Web site ([www.statcan.ca](http://www.statcan.ca)). For more information, contact Conrad Barber-Dueck (204-275-3626), Income and Expenditure Accounts Division.

### ■ *B.C. university graduates: Earnings over time*

The annual earnings of university graduates who obtained a bachelor's degree from universities in British Columbia between 1974 and 1996 show little support for arguments that the value of a sciences, humanities or social sciences education has declined relative to an education in applied fields.

While earnings were higher in applied fields, the gap did not increase for more recent graduates. This suggests that graduates from sciences, humanities and social sciences did not get left behind by the new technology-driven economy.

Men who obtained a degree in sciences, humanities or social sciences between 1990 and 1992 earned 6% more five years after graduation than those who graduated between 1979 and 1981. For men with an applied degree in commerce or engineering, those who graduated between 1990 and 1992 earned 5% more than their counterparts in the earlier cohort. These differences in earnings growth were not statistically significant.

Comparing women from the same graduation cohorts, graduates with a sciences, humanities or social sciences degree earned 12% more five years after graduation than their counterparts in the earlier cohort; those with a degree in commerce or engineering earned 10% more than their counterparts in the earlier cohort.

Examining earnings 10 or 15 years after graduation also shows that earnings grew equally for university graduates from applied and academic programs. Higher earnings for more recent graduates with a degree in an applied field, compared with the earnings of graduates from other fields, would have signalled a shortage of applied graduates.

Graduates from applied fields do earn more than graduates from other programs. For example, 10 years after graduation, men who graduated between 1984 and 1986 with commerce or engineering degrees earned \$69,300 annually, compared with \$55,000 for

their counterparts in sciences, humanities or social sciences. However, this premium did not increase over the period.

If relative earnings had increased for applied degree holders, one could have argued that the new technology-driven economy favoured applied graduates. Demand for applied graduates would have pushed up the relative wage (because there was no change in relative supply). However, the stability in relative earnings among these groups suggests that demand increased equally for graduates from all fields of study.

For more information, see *Cohort Effects in Annual Earnings by Field of Study among British Columbia University Graduates* (Catalogue no. 11F0019MIE2003200) in the **Studies** module on the Statistics Canada's Web site ([www.statcan.ca](http://www.statcan.ca)), or contact Andrew Heisz, Business and Labour Market Analysis Division, at (613) 951-3748.

### ■ *Family income and participation in postsecondary education*

Postsecondary education is no more the domain of students from well-to-do families than it was two decades ago. It has been a long-standing tendency that individuals from higher-income families are much more likely to attend university. However, the participation gap between students from the higher- and lower-income families attending university narrowed in the 1990s.

This in part reflects increases in the participation rates among students from the lower-income families as well as declines in the rates of those from higher-income families.

The only group to make steady gains in university participation rates through the 1990s consisted of young people (aged 18 to 24) from families with the lowest incomes. By the late 1990s, young people from families with incomes of \$25,000 or less were almost as likely to be attending university as those whose parents had \$25,000 to \$50,000 in income. In addition, their participation level was much closer to that of people whose parents had up to \$100,000 than was the case earlier in the 1990s.

At the high end of the scale, about 40% of young people from families with incomes of \$100,000 or more had a university degree or were enrolled in university. This rate has fluctuated a bit, but for the

most part has not changed since the early to mid-1980s. It has been substantially and perennially higher than rates for lower-income groups.

The participation rate for young people from families with income from \$75,000 to \$100,000 was also notably higher than for lower-income groups, ranging from 20% to 30%.

However, the pattern of change did not vary greatly once family income exceeded \$25,000. Participation rates trended up throughout the 1980s, then stopped growing and even declined during the 1990s.

The peak in participation rates seems to have occurred in 1991 or 1992. Only the participation rates of individuals from the lowest income families—\$25,000 or less—have progressed steadily throughout the 1990s. Rates among this group started at less than 10% during the early 1980s and rose to 19% by 1997.

The increased costs of higher education during the 1990s were partly shifted onto students. This was coincident with much higher levels of borrowing and the decline in university participation rates among young people from middle-income families.

For more information, see *Family Income and Participation in Postsecondary Education* (Catalogue no. 11F0019M IE2003210) in the **Studies** module on the Statistics Canada's Web site ([www.statcan.ca](http://www.statcan.ca)), or contact Miles Corak, at (613) 951-9047; [miles.corak@statcan.ca](mailto:miles.corak@statcan.ca); or John Zhao (613) 951-1508; [john.zhao@statcan.ca](mailto:john.zhao@statcan.ca), Family and Labour Studies Division.

## ■ **Earnings of immigrant workers and Canadian-born workers**

Despite a massive increase in their educational attainment, recent immigrant men employed full year, full time saw their real earnings fall 7% on average from 1980 to 2000. During the same period, however, real earnings of Canadian-born men went up 7%. Earnings of recent immigrant women rose over the period, but not as quickly as among Canadian-born women.

In 1980, immigrant male workers who had arrived in Canada in the previous five years and who were working full time for at least 40 weeks earned \$40,600. Twenty years later, their counterparts earned only \$37,900.

This substantial decline cannot be attributed to changes in educational attainment. In 1980, 22% of all recent immigrant male workers employed full year, full time had a university degree. By 2000, this proportion had doubled to 44%.

As a result of the divergent changes, the gap between the pay rates of recent immigrant men and their Canadian-born counterparts has widened substantially.

This growing gap suggests that unless they experience a marked improvement in their earnings in the near future, immigrant men who arrived during the late 1990s will need more time than their predecessors to achieve earnings parity with Canadian-born workers.

Men who immigrated during the late 1990s were not the only group to experience significant decreases in earnings. Canadian-born men aged 25 to 29 also saw their earnings fall markedly. In 1980, they received \$39,800. Two decades later, however, their counterparts earned only \$35,700, a 10% decline.

A growing earnings gap also emerged between recent immigrant women and their Canadian-born counterparts over the last two decades.

The performance of the Canadian labour market in 1980 and 2000 cannot explain this growing earnings gap either—the unemployment rate of workers aged 25 to 54 was 5.7% in both years. Furthermore, changes in the age structure of recent immigrants must be ruled out as an explanation, since these changes were controlled for in the analysis.

Because real earnings of young Canadian-born men also dropped substantially during this period, the problems faced by recent immigrant men may not be unique to them. Rather, the problems may affect all new entrants to the labour market.

Since the poorer performance of recent immigrants was observed mainly among prime-aged workers, problems faced by recent immigrants appear to affect mainly individuals with substantial foreign work experience.

Even though the drop in wages of new male entrants to the Canadian labour market has been documented in several studies over the last decade, it is still not well understood.

For more information, see *Will They Ever Converge? Earnings of Immigrant and Canadian-born Workers over the Last Two Decades* (Catalogue no. 11F0019MIE2003215)



in the **Studies** module on the Statistics Canada's Web site ([www.statcan.ca](http://www.statcan.ca)), or contact Marc Frenette at (613) 951-4228, or René Morissette at (613) 951-3608, Business and Labour Market Analysis Division.

### ■ *RRSP contributions*

The number of Canadians who contributed to a registered retirement savings plan (RRSP), as well as the amount of their contributions, dropped sharply for the second straight year.

In total, 5,991,440 taxfilers contributed just under \$27.1 billion to RRSPs in the 2002 tax year. Contributors were down 4% from 2001, while contributions fell 5%.

These declines occurred despite a 2% increase in taxfilers with room and stability in median employment income—\$24,400 in 2002, down a slight 0.5% from the previous year, after adjusting for inflation.

Both contributors and contributions reached record levels in 2000 when 6,291,200 taxfilers contributed almost \$29.3 billion.

The median RRSP contribution declined from \$2,600 in 2001 to \$2,500 in 2002. It fell in all provinces and territories except Prince Edward Island, New Brunswick and Quebec, where it remained the same.

RRSP participation rates among men and women, and across age groups, shifted slightly. Although the number of women who contributed declined, they accounted for 46% of contributors, up from 45% in 2001. Their median contribution of \$2,100 was down from \$2,200.

Contributors fell in all age groups except those aged 55 to 64. However, even in this age group, the average contribution declined.

For the 2002 tax year, 80% of those who filed taxes had room. Of these, about 34% made contributions.

Contributions in 2002 represented only about 9% of the total room available and less than half of the new room generated in 2002.

For more information, contact Client Services, Small Area and Administrative Data Division, at 1 866 652-8443 or (613) 951-9720; fax: 1 866 652-8444 or (613) 951-4745; [saadinfo@statcan.ca](mailto:saadinfo@statcan.ca).

### ■ *Savers, investors and investment income*

The number of Canadians reporting investment income and the amount they received both fell sharply in 2002.

Just under 7.5 million people reported \$29.5 billion of income from investments in 2002. Recipients fell 6% from 2001, while income fell 12%, after adjusting for inflation.

In spite of these declines, median investment income remained unchanged at \$500. Only the Northwest Territories and Nunavut had an increase in median investment income, as well as an increase in the proportion of taxfilers reporting it. Median investment income remained the same in six provinces and territories, while declining in Newfoundland and Labrador, Ontario, Manitoba, Saskatchewan and British Columbia. In these provinces, the proportion of people reporting investment income declined relative to the previous year.

Although people reporting dividends increased slightly from 2001 to 2002, their investment income fell 6%. This was caused by declining stock markets and the drop in interest rates. In 2002, just under three million investors reported \$21.8 billion of investment income.

The decline in investment income in 2002 was most apparent for those who reported interest income only. The number reporting interest income declined 10% to 4.5 million. The interest income they received fell 25.5% to \$7.7 billion, a result of continuing declines in interest rates since 2000.

For more information, contact Client Services, Small Area and Administrative Data Division, at 1 866 652-8443 or (613) 951-9720; fax: 1 866 652-8444 or (613) 951-4745; [saadinfo@statcan.ca](mailto:saadinfo@statcan.ca).

### ■ *Knowledge workers in Canada's workforce*

The expansion of a knowledge-based economy in Canada is not a new phenomenon. The proportion of knowledge workers has increased steadily over the last three decades, reflecting a growth trend that began long before the 1990s boom in the information and communications technology sector.



In 1971, about 14% of Canada's workforce fell into what can be considered high-knowledge occupations. By 2001, this proportion had almost doubled to 25%, with growth occurring across most industries.

Growth was continuous for professional and management occupations throughout the 30-year period, but fell behind in the 1990s for the technical occupations.

The largest increase occurred among the largest group of knowledge workers: those in professional occupations. In 1971, they accounted for almost 9% of Canada's workforce, compared with more than 14% three decades later.

The shift towards a more highly skilled workforce has been a long, continuous process, touching all provinces and the urban-rural divide. The importance of skills, knowledge and human capital has generally increased among many types of firms and industries.

Industries saw large differences in the percentage of employment found in knowledge-based occupations. In 2001, some of the largest concentrations of knowledge workers were in business services (66%) and finance and insurance (42%).

From 1971 to 2001, the proportion of knowledge workers in the mining and oil and gas sector almost doubled, from 14% to 26%.

In the 1990s, the proportion of knowledge-based workers grew faster in service industries than in goods industries.

In the business sector, a higher proportion of men than women work in knowledge-based occupations. In 1996, 11% of female workers in these industries were employed in knowledge-based jobs, compared with 19% of male workers. However, over the long run, the proportion of female knowledge workers has grown faster.

In 1971, 34% of knowledge workers had university degrees, compared with slightly less than 3% of other workers. By 2001, 52% of all workers in knowledge-intensive occupations had a university degree, compared with less than 10% of those in other occupations.

University degrees are most common in professional occupations. In 1971, slightly less than 45% of professionals had university degrees. Three decades later, this proportion had increased to two-thirds.

Still, among knowledge workers, those in technical occupations experienced the fastest growth in university degrees over the last three decades.

While knowledge-based occupations pay significantly higher wages, the wage advantage enjoyed by knowledge workers relative to other occupations did not increase significantly from 1971 to 2001.

Growth in knowledge-based occupations has occurred in all regions, with Ontario and Quebec experiencing the biggest percentage point increases.

For more information, see *Dimensions of occupational changes in Canada's knowledge economy, 1971-1996* (Catalogue no. 11-622-MIE2003004) and *Knowledge workers in Canada's economy, 1971-2001* (11-624-MIE2003004) in the **Studies** module, on the Statistics Canada's Web site ([www.statcan.ca](http://www.statcan.ca)), or contact Desmond Beckstead, Micro-Economic Analysis Division, at (613) 951-6199.

## Studies from other organizations

### ■ *Wealth effects*

This study examines the link between consumption and disaggregate wealth in Canada, based on a vector-error-correction model in which permanent and transitory shocks are identified using the restrictions implied by co-integration proposed by King, Plosser, Stock, and Watson (1991) and Gonzalo and Granger (1995). This procedure helps identify the reaction of consumption to both types of shocks and to calculate average marginal propensities to consume out of disposable income, human wealth, stock market wealth, and housing wealth. Evidence of a significant housing wealth effect was found. Conversely, the evidence regarding the stock market wealth effect was weak.

For further reading, see *Are Wealth Effects Important for Canada?*, a working paper by Lise Pichette and Dominique Tremblay, Bank of Canada, October 2003, [www.bankofcanada.ca/en/wp\(a\).htm](http://www.bankofcanada.ca/en/wp(a).htm).

### ■ *Technological change and the education premium*

The education premium in Canada measured by the wage difference between university and high school graduates has remained constant over the past two

decades. Despite this stable pattern at the aggregate level, skill-biased technology could have important implications for the inter-industry wage structure.

In a multi-sector economy where technological innovations are skewed towards certain industries, imperfect labour mobility implies a positive relationship between the education premium and the technological change in industry.

Empirical results based on the Survey of Consumer Finance and the Labour Force Survey appear to confirm this link: university graduates in research and development-intensive industries are better paid. Yet, this positive correlation arises largely because high-tech industries attract more professionals who are more educated than the average university graduate.

For further more information, see *Technological Change and the Education Premium in Canada: Sectoral Evidence*, a working paper by Jean Farès and Terence Yuen, Bank of Canada, July 2003, [www.bankofcanada.ca/en/topic/top-lab.htm](http://www.bankofcanada.ca/en/topic/top-lab.htm).

## ■ Working with computers

How widely are computers used in the workplace? Nearly 6 in 10 workers used a computer in 2000. Logistic regression demonstrates that the incidence of computer use at work varies significantly by sex, age, educational attainment, country of birth, province, work schedule (full- versus part-time), employment type (regular employees, the self-employed with paid help, the own-account self-employed), industry, and occupation.

How often are computers used at work? Among those who used them, 85% did so on a daily basis, another 10% several times a week, and the remainder several times a month. Ordered logistic regression shows that once workers use a computer, sex, educational attainment, country of birth and province make no difference in how frequently they do so. However, huge variations arise in the frequency of use across age groups, work schedules, employment types, industries, and occupations.

What are computers used for at work? Overall, the Internet, word processing and email are the most frequently reported functions; programming is the least common. While this general pattern largely holds true when each characteristic is considered in isolation (for example, men or women examined alone), marked differentials appear in the proportion of workers using

computers for each purpose across worker attributes such as sex, age, educational attainment, and country of birth; across geographic areas; and across work characteristics such as full- or part-time work schedule, employee or self-employed (with or without paid help) employment type, industry, and occupation.

For further reading, see *Working with Computers in Canada: An Empirical Analysis of Incidence, Frequency and Purpose* by Zhengxi Lin and Andrija Popovic, Applied Research Branch Strategic Policy, Human Resources Development Canada, April 2003, [www.hrdc-drhc.gc.ca/sp-ps/arb-dgra/publications/research/alph\\_e.shtml](http://www.hrdc-drhc.gc.ca/sp-ps/arb-dgra/publications/research/alph_e.shtml).

## ■ New forms of work organization

This study addresses the issue of how new forms of work organization (NFWO) are affecting job skill requirements. Practices such as job rotation, problem-solving teams and self-directed workgroups are thought to increase job skill requirements because they tend to broaden job responsibilities. The study uses the 1999 and 2000 Workplace Employee Survey to examine how participation in these forms of work organization affects skills needs.

New forms of work organization do lead to new job skill requirements. Moreover, to some extent, firms use training to meet the increased skill needs associated with these practices. It is also likely that firms make greater use of existing skills possessed by their employees or forsake training because it is too costly. Also, employees reporting increased technological complexity since the start of the job are much more likely to have increased skill requirements. This suggests that more complex, often computer-based, technologies tend to eliminate routine tasks from jobs and introduce more cognitively demanding tasks.

To what extent the use and benefits of NFWO are limited by skill deficiencies among segments of the working population and to what extent the introduction of NFWO may limit the labour market prospects of individuals without a post-secondary education?

For further reading, see *New Forms of Work Organization, Skills and Training* by Craig Eschuk, Applied Research Branch, Strategic Policy, Human Resources Development Canada, July 2003, [www.hrdc-drhc.gc.ca/sp-ps/arb-dgra/publications/research/alph\\_e.shtml](http://www.hrdc-drhc.gc.ca/sp-ps/arb-dgra/publications/research/alph_e.shtml).

# In the works

*Some of the topics in upcoming issues*

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## ■ Approaching retirement rates

How many workers are within 10 years or less of the median retirement age for their province or industry?

## ■ Jobs across the generations

Youths (aged 15 to 29) have a strong tendency to be employed in the same industries and even by the same employer as their parents. These results suggest that parents have an important role to play in facilitating their children's transition from school to work.

## ■ Group RRSPs

Some workers report having a registered pension plan (RPP) or a group RRSP in their job, but they are, in fact, employed in firms that provide neither.

## ■ Planning and financing postsecondary education

A look at the expectations of parents concerning their children's postsecondary education, as well as the saving behaviour of the parents. Also examined: how postsecondary education was planned and financed for youths 18 to 24 in 2001.

## ■ Problem gambling

A comparison of the behaviour and characteristics of non-problem, at-risk, and problem gamblers.

## ■ The sandwich generation

A profile of the middle-aged coping with the often conflicting demands of children, work and aging parents.

PERSPECTIVES ON LABOUR AND INCOME

The quarterly for labour market and income information



# Key labour and income facts

## *Selected charts and analysis*

This section presents charts and analysis featuring one or more of the following sources. For general inquiries, contact Joanne Bourdeau at (613) 951-4722; [bourjoa@statcan.ca](mailto:bourjoa@statcan.ca).

### **Administrative data**

*Small area and administrative data*

Frequency: Annual

Contact: Customer Services

(613) 951-9720

### **Business surveys**

*Annual Survey of Manufactures*

Frequency: Annual

Contact: Dissemination agent

(613) 951-9497

*Annual Surveys—Service Industries*

Frequency: Annual

Contact: Lucie Lussier

(613) 951-0410

*Business Conditions Survey of*

*Manufacturing Industries*

Frequency: Quarterly

Contact: Claude Robillard

(613) 951-3507

### **Census**

*Census labour force characteristics*

Frequency: Quinquennial

Contact: Michel Côté

(613) 951-6896

*Census income statistics*

Frequency: Quinquennial

Contact: John Gartley

(613) 951-6906

### **Employment and income surveys**

*Labour Force Survey*

Frequency: Monthly

Contact: Marc Lévesque

(613) 951-4090

*Survey of Employment, Payrolls and Hours*

Frequency: Monthly

Contact: Sylvie Picard

(613) 951-4090

*Help-wanted Index*

Frequency: Monthly

Contact: Sylvie Picard

(613) 951-4090

*Employment Insurance*

*Statistics Program*

Frequency: Monthly

Contact: Sylvie Picard

(613) 951-4090

*Major wage settlements*

Bureau of Labour Information

(Human Resources

Development Canada)

Frequency: Quarterly

Contact: (819) 997-3117

1 800 567-6866

*Labour income*

Frequency: Quarterly

Contact: Anna MacDonald

(613) 951-3784

*Survey of Labour and Income Dynamics*

Frequency: Annual

Contact: Client Services

(613) 951-7355 or

1 888 297-7355

*Survey of Financial Security*

Frequency: Occasional

Contact: Client Services

(613) 951-7355 or

1 888 297-7355

*Survey of Household Spending*

Frequency: Annual

Contact: Client Services

(613) 951-7355 or

1 888 297-7355

### **General social survey**

*Education, work and retirement*

Frequency: Occasional

Contact: Client Services

(613) 951-5979

*Social and community support*

Frequency: Occasional

Contact: Client Services

(613) 951-5979

*Time use*

Frequency: Occasional

Contact: Client Services

(613) 951-5979

### **Pension surveys**

*Pension Plans in Canada Survey*

Frequency: Annual

Contact: Patricia Schembari

(613) 951-9502

*Quarterly Survey of Trusteed*

*Pension Funds*

Frequency: Quarterly

Contact: Bob Anderson

(613) 951-4034

### **Special surveys**

*Survey of Work Arrangements*

Frequency: Occasional

Contact: Ernest B. Akyeampong

(613) 951-4624

*Adult Education and Training Survey*

Frequency: Occasional

Contact: Client Services

(613) 951-7355 or

1 888 297-7355

*Graduate Surveys*

(Postsecondary)

Frequency: Occasional

Contact: Client Services

(613) 951-7608

# Work experience

Work experience is an important determinant of current earnings as well as future income. The Survey of Labour and Income Dynamics provides a measure of actual years of work experience and is used to examine differences between men and women 25 to 69 years old. The lower age limit was selected because those in the 15-to-24 age group are likely to be in school, and because the average child-bearing age has increased. The upper age limit reflects the drop in labour force participation rates after 70, and the lower participation in the labour market by women of this generation.

Median work experience for young men 25 to 34 in 2000 was only two years more than for women the same age. This may be explained in part by their young age and recent entry into the labour market. They also belong to a generation in which both men and women work outside the home. For older age groups, however, the median years of actual experience rose rapidly for men, but not for women. For example, baby-boomer men (45 to 54 in 2000) had eight more years of work experience than

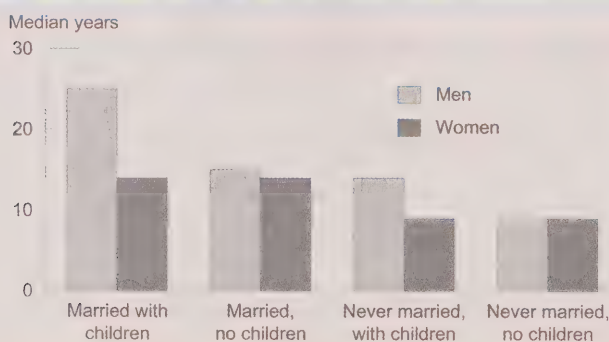
## Years of work experience between men and women diverges with age.



Source: Survey of Labour and Income Dynamics, 2000

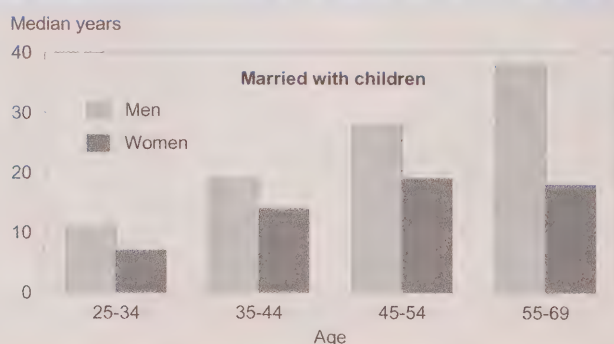
women the same age. For the 55-to-69 age group, the median years of work experience was 18 years higher for men than for women.

## Marriage and children widen the gap...



Source: Survey of Labour and Income Dynamics, 2000

## across all age groups.

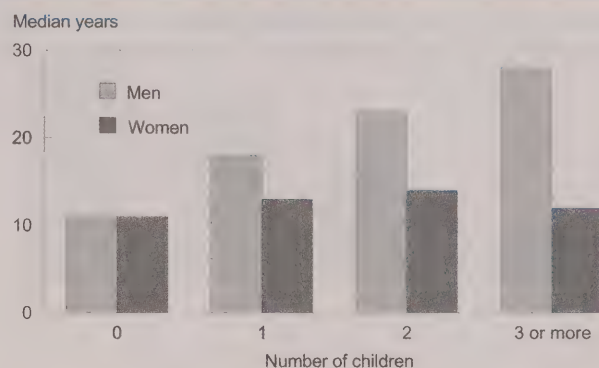


Median years of work experience for never-married men and women with no children were identical. Marriage without children also resulted in nearly equal years of work experience for men and women. When children were present, the gap widened. It also rose with age; while the

gap was only four years among those aged 25 to 34, it increased to 20 years among those 55 to 69, reflecting differences in lifetime work experience between men and women.

Caring for children is largely a woman's domain in most societies, impinging upon the amount of time women can devote to paid labour. In 2000, men and women without children had the same median years of work experience. The first child reduced the median for women relative to men in the overall sample, and the gap widened with each additional child. With three children or more, it rose to 16 years.

### Years of work experience is affected by the number of children.



Source: Survey of Labour and Income Dynamics, 2000

Married men and women constituted 80% of those surveyed, and close to three-quarters had children. The presence of children increased the years of work experience for men—more so with each additional child—in nearly all age groups. The opposite occurred for women in almost all cases.

For married men and women with two children, for example, differences in median years of work experience were lowest for the relatively young (25 to 34) and increased with age. It remains to be seen whether work experience differences between men and women in the younger age cohorts will remain small over

### Children almost always increase the years of work experience for men while reducing it for women.

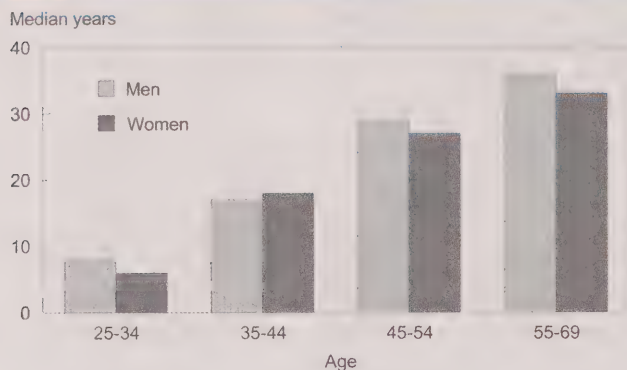
	25-34		35-44		45-54		55-69	
	Men	Women	Men	Women	Men	Women	Men	Women
Median years								
<b>Married with</b>								
no children	8	6	17	18	29	27	36	33
1 child	9	7	18	16	27	24	36	27
2 children	11	8	19	14	29	20	37	22
3 or more children	12	5	20	12	29	16	40	15

Source: Survey of Labour and Income Dynamics, 2000

their working life. Some evidence suggests that this may already be occurring. The difference in median years of work experience between men and women aged 45 to 54 was 9 years. By age 55 to 69, the median years of work experience for women with two children was 15 years less than for men. This is partly a generational difference, but the trend for baby boomers indicates that the differences are diminishing.



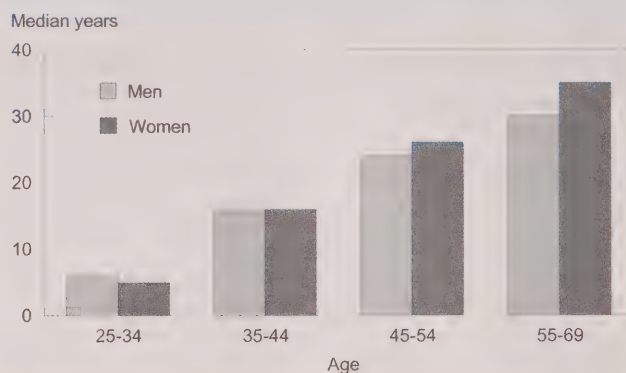
### Children, not marriage, make the difference.



Source: Survey of Labour and Income Dynamics, 2000

Married men and women in all age groups had only a marginal difference in years of work experience. In fact, for those 35 to 44 years, the median years of work experience were higher for women. Again, over a lifetime of work, differences between married men and women without children remained small. The difference was only two years among those 45 to 54 and increased only to three years for the 55-to-69 age group.

### Among those never married and with no children, women had more years of work experience.



Source: Survey of Labour and Income Dynamics, 2000

Most people get married and raise children. A small proportion, 13%, have neither married nor had children. A revealing finding is the similarity in median years of work experience between men and women in this group. Young men (25 to 34 years) had a slight lead over women, but this disappeared by ages 35 to 44. Beyond 45, women actually had more work experience than men. This confirms that caring for children reduces women's years of work experience.

#### Data source

Age is often used as a proxy to measure potential years of work experience (age, less years of schooling, less five years). Yet this measure does not capture differences in years of work experience between men and women because it does not take into account the years women interrupt their work. The **Survey of Labour and Income Dynamics (SLID)** provides a measure of the actual years of work experience by asking respondents about their work patterns from the time they first started working. Years of work experience that include part-year, part-time work are converted into full-year, full-time equivalent years. Thus SLID is able to measure differences in actual years of work experience between men and women.

# Retirement

## The age of retirement has stabilized in recent years

Over the past couple of decades, the age of retirement has changed dramatically. (The available data series starts in 1991. Because it is necessary to look back one year to determine who retired, the most recent data available at writing were for people who retired in 2001). The median age was close to 65 in the late 1970s and early 1980s. Starting in the mid-1980s, it declined considerably.

Between 1986 and 1993, the median retirement age declined more or less steadily. The sharp drop between 1986 and 1987 is likely explained by the lowering in 1987 of the minimum age at which one could draw benefits from the Canada Pension Plan—from 65 to 60. In 1988, retirement age increased, probably because most people wishing to take advantage of this early retirement option had done so the previous year. After 1988, however, the trend toward earlier retirement resumed until 1994, when retirement age



Source: Labour Force Survey

increased slightly and then declined until 1997. After 1997, it increased again and then stabilized.

The retirement age fluctuations in the 1990s may reflect government cutbacks and corporate downsizing. The popularity of early retirement incentives as a tool for workforce adjustment may also have influenced recent retirement behaviour.

Over most of the past two decades, women retired slightly earlier than men, with the two sexes following a similar trend. There were exceptions, however. In 1986, for example, women retired later than men. In 2001, the median age of retirement decreased slightly for both men and women.

## Distribution of ages at retirement

	1992 to 1996		1997 to 2001	
	'000	%	'000	%
<b>Total</b>	<b>605</b>	<b>100</b>	<b>706</b>	<b>100</b>
50 to 54	64	11	112	16
55 to 59	150	25	193	27
60 to 64	216	36	216	31
65 to 69	132	22	133	19
70+	42	7	52	7

Source: Labour Force Survey

This study looks at people who retired at any time during the five-year period at either end of the data series (1992 to 1996 and 1997 to 2001). Initially, the most popular age for retirement was between 60 and 64 (36% of retirees); at the end of the study period, it was still 60 to 64 but the number of retirees had decreased (31%).

The change is more noticeable, however, in the proportion of those retiring at younger and older ages. The percentage under age 55 increased, from 11% to 16%. The sample aged 55 to 59 increased from 25% to 27%. On the other hand, fewer people waited past age 65 (19% versus 22%).

Not everyone joined this trend, however. About one person in 14 retiring in the 1990s waited until age 70 or later.

## Measuring retirement

The Labour Force Survey (LFS) was designed to measure labour force activity at a certain point in time: one reference week each month. To provide a meaningful series on retirement, each survey month is scanned and everyone who claims to have retired in the past year is recorded. The month of retirement is taken to be the same as the month last worked. A list of retirees is then organized according to the *month in which they retired*, rather than the month of the survey. Special adjustments to the sampling weights produce an unbiased estimate of retirees.

Since very few people under 50 report retirement as a reason for leaving their job, only those who retired at 50 or over are included here.

For all retired people (except a few 'permanently unable to work'), information is gathered on the last job—specifically, industry, occupation, length of tenure, and employment class (employee or self-employed).

The data refer to the last job, but some people's last job may not be indicative of their careers. These people may have switched jobs shortly before retirement. For this

reason, those with brief job tenures are best considered a residual group—that is, representing people with a wide but unknown mix of work histories.

Respondents remain in the LFS sample for six consecutive months. For this study, however, only the response in the first month is used. This self-perceived retirement status is not updated thereafter, even though the respondent's situation may have changed after the first interview.

According to a preliminary study, a few retirees took jobs in the following five months. Many of these jobs were part-time, which may mean simply that the person had decided to fill in the time or to supplement a pension.

The majority of people over 50 who left the workforce gave reasons other than retirement for leaving the last job. The two most common ones were 'laid off' and 'sickness or disability'. A high percentage of this group re-entered the labour force within five months of the initial LFS interview. Many more likely found jobs later. In the context of the current exercise, those who remained out of the workforce would be missed from the analysis.



## Median age at retirement, and length and sector of employment

Many factors influence the timing of retirement. Among the most important are the type of last job and length of tenure. (The data relate to the retiree's last job. At least some of those with less than 20 years' tenure may have held a long-term job sometime earlier. If those jobs could also be measured, differences in retirement age between people with short and long job tenures would probably increase.)

For workers overall, the median age of retirement declined from 62.0 to 60.8 over the study period. People employed in the public sector (which includes education, health and social services, and government), already the youngest to retire from 1992 to 1996, saw the greatest decline in median age (2.1 years, from 59.7 to 57.6). Employees in the private sector retired an average three and a half years later than public sector workers at the beginning of the period, a gap that increased to over four years between 1997 and 2001 (61.7 versus 57.6).

Self-employed people, whose median age of retirement remained steady over the study period (65.0), retired later than employees. Industry accounts for much of the age difference between self-employed and employees.

How long one worked in a job prior to retirement seems to have a strong correlation with retirement age. This is not surprising. People who stay with one employer for a long time have an opportunity to build up substantial entitlements in a pension plan if one is available. Furthermore, employers offering good pension plans (for example, school boards, some large companies and governments) often provide longer tenure. As might be expected, early retirement is more prevalent in such workplaces. Employer pensions have also been linked with higher retirement incomes (Gower, D. "Men retiring early: How are they doing?" *Perspectives on Labour and Income* (Statistics Canada, Catalogue no. 75-001-XPE) 7, no. 4 (Winter 1995): 30-34).

Between 1997 and 2001, workers with job tenure of 20 years or more retired almost three years earlier than those with under 20 years (59.9 versus 62.6). Among the self-employed, however, the opposite was true. On average, those with 20 years or more retired 2.8 years later (66.6 versus 63.8). This, combined with their slower rate of decline in median retirement age, suggests that self-employed workers reach the decision to retire in a very different manner.

Job tenure	Sector	1992 to 1996		1997 to 2001	
		'000	Median age	'000	Median age
Overall	All retirees (aged 50+)*	605	62.0	706	60.8
	Public employees	213	59.7	244	57.6
	Private employees	301	63.2	334	61.7
	Self-employed	87	65.0	123	65.0
Less than 20 years	All retirees (aged 50+)*	258	63.7	291	62.6
	Public employees	66	62.0	65	60.4
	Private employees	153	64.3	162	63.0
	Self-employed	38	64.3	63	63.8
20 years or more	All retirees (aged 50+)*	345	60.7	411	59.9
	Public employees	147	58.8	178	56.9
	Private employees	148	61.8	172	60.4
	Self-employed	49	65.7	60	66.6

Source: Labour Force Survey

Note: Job tenure and sector refer to last job prior to retirement.

\* Because unpaid family workers are not accounted for in the sub-categories but are included in the totals, numbers do not add to totals.

## Distribution of retirees by month of departure, 1997 to 2001

	Both sexes		Men		Women	
	%	Median age	%	Median age	%	Median age
<b>All months</b>	<b>100.0</b>	<b>60.8</b>	<b>100.0</b>	<b>61.8</b>	<b>100.0</b>	<b>60.0</b>
January	7.7	60.8	8.0	60.7	7.2	60.8
February	5.0	61.3	4.9	60.6	5.1	62.2
March	6.3	60.3	6.5	61.4	6.0	59.0
April	7.1	61.3	7.3	61.8	6.7	60.3
May	7.2	60.6	7.4	60.7	6.9	60.4
June	17.2	58.4	14.3	59.8	21.2	57.4
July	9.2	60.3	8.9	61.3	9.6	59.6
August	6.6	60.9	7.2	61.9	5.8	59.2
September	8.4	62.8	8.4	64.6	8.3	61.2
October	7.7	63.0	8.5	63.3	6.6	62.1
November	6.0	62.1	6.4	63.2	5.4	61.2
December	11.7	61.0	12.1	62.6	11.1	60.0

Source: Labour Force Survey

Not surprisingly, people favoured some months over others to retire. Two months stand out: June and December, with the former more popular. People who retired during the summer tended to be slightly younger than those who did so in autumn or winter. Little has changed over the last two decades. The patterns for men and women are similar, though women were more likely to retire in June. This may relate to the number of women retiring from teaching.

## Median age at retirement by industry, and change over time

Between 1997 and 2001, below average retirement ages were recorded in utilities; finance, insurance, real estate and leasing; educational services; health care and social assistance; information, culture and recreation; and public administration.

The greatest declines were found in industries with low retirement ages. In contrast, those recording relatively late retirement ages experienced the least decrease, except in trade industries.

Many factors are at play here. In particular, certain industries that were downsizing in the 1990s may have introduced early retirement programs (see *Retirement patterns by industry*).

Industry*	1992 to 1996	1997 to 2001	Change
	Median age	Median age	Years
<b>Industry*</b>	<b>62.0</b>	<b>60.8</b>	<b>-1.2</b>
<b>Goods-producing</b>	<b>63.0</b>	<b>62.2</b>	<b>-0.8</b>
Primary	64.9	65.2	0.3
Agriculture	66.7	68.6	1.9
Other	62.8	61.2	-1.6
Utilities	59.2	56.6	-2.6
Construction	64.7	63.7	-1.0
Manufacturing	61.9	61.4	-0.5
<b>Service-producing</b>	<b>61.7</b>	<b>60.3</b>	<b>-1.4</b>
Trade	64.3	62.6	-1.7
Transportation and warehousing	61.0	60.8	-0.2
Finance, insurance, real estate and leasing	62.3	60.0	-2.3
Professional, scientific and technical	64.8	64.6	-0.2
Management, administrative and other	65.4	64.6	-0.8
Educational services	60.3	57.1	-3.2
Health care and social assistance	61.4	60.3	-1.1
Information, culture and recreation	61.0	59.9	-1.1
Accommodation and food services	64.7	64.0	-0.7
Other services	64.8	63.6	-1.2
Public administration	59.3	58.2	-1.1

Source: Labour Force Survey

\* According to last job prior to retirement.

## Median age at retirement by sex and education, 1997 to 2001

	Both sexes		Men		Women	
	'000	Median age	'000	Median age	'000	Median age
<b>Education</b>	<b>706</b>	<b>60.8</b>	<b>412</b>	<b>61.8</b>	<b>294</b>	<b>60.0</b>
0-8 years	99	64.6	70	64.7	29	62.6
Some secondary	113	62.0	67	62.3	46	61.3
High-school graduate	120	60.1	62	60.2	58	60.0
Postsecondary	243	60.9	133	61.7	110	59.9
University degree	132	58.1	81	59.8	51	56.3

Source: Labour Force Survey

Men tended to retire slightly later than women (aged 61.8 versus 60.0). This difference held for people in most education groups except those with only a high-school diploma.

Changes in the LFS prevent a comparison of education groups over time but, in the 1990s at least, differences between those lacking high school graduation and those with higher education were much greater than differences between men and women. For example, people with a postsecondary certificate, diploma or degree retired more than three years earlier than those with eight years of schooling or less.

## Median age at retirement by occupation, and change over time

All major occupation groups except occupations unique to primary industry showed declines in the median age of retirement.

In both periods, public sector occupations had the lowest retirement age.

Primary occupations had the highest age of retirement in both periods, and the gap widened in the later period.

	1992 to 1996	1997 to 2001	Change
	Median age		Years
<b>All occupations*</b>	<b>62.0</b>	<b>60.8</b>	<b>-1.2</b>
Management	61.2	60.0	-1.2
Business, finance and administrative	60.9	60.3	-0.6
Natural and applied sciences	60.6	60.1	-0.5
Health	61.7	60.3	-1.3
Social science, education, government service and religion	59.4	57.0	-2.4
Art, culture, recreation and sport	64.4	61.0	-3.4
Sales and service	63.3	61.8	-1.6
Trades, transport and equipment operators	63.0	62.4	-0.6
Occupations unique to primary	65.2	66.6	1.4
Occupations unique to processing, manufacturing and utilities	62.4	61.2	-1.2

Source: Labour Force Survey

\* According to last job prior to retirement.



## Median age at retirement by province

At the beginning of the study period, the gap between the highest median retirement age (64.7 in Saskatchewan and the lowest (60.2 in New Brunswick) was 4.5 years. In the 1997 to 2001 period, the gap widened to 6.0 years (64.6 in Saskatchewan and 58.6 in Newfoundland and Labrador).

While the majority of Canadians opted for earlier retirement, the drop in median age varied from only 0.1 year in Saskatchewan to 2.5 in Prince Edward Island. Only Alberta saw an increase in retirement age.

Different factors influenced provincial findings. For example, in Saskatchewan, the prevalence of agriculture may help to explain the high and relatively stable retirement age. Further east, Quebec's lowering of the minimum age of entitlement for the Quebec Pension Plan from 65 to 60 in 1984—three years before a similar move by the

	1992 to 1996		1997 to 2001		Change
	'000	Median age	'000	Median age	Years
<b>Canada</b>	<b>605</b>	<b>62.0</b>	<b>706</b>	<b>60.8</b>	<b>-1.2</b>
Saskatchewan	22	64.7	25	64.6	-0.1
Alberta	49	62.7	60	63.9	1.2
British Columbia	75	63.8	94	61.8	-2.0
Ontario	251	62.3	273	61.3	-1.0
Manitoba	27	62.1	28	61.3	-0.8
Prince Edward Island	3	63.3	3	60.8	-2.5
Nova Scotia	20	60.7	18	60.4	-0.3
New Brunswick	15	60.2	19	60.2	0.0
Quebec	133	60.6	177	59.3	-1.3
Newfoundland and Labrador	9	60.4	10	58.6	-1.8

Source: Labour Force Survey

Canada Pension Plan—may have accelerated the trend to younger retirement in the province. For British Columbia, the picture is complicated by province designation, which is based on where the person was living when surveyed (that is, after retirement). Migration to British Columbia after retirement, as well as migration patterns in general, may play a role (Monette, M. *Canada's Changing Retirement Patterns: Findings from the General Social Survey*. Catalogue no. 89-546-XPE. Ottawa: Statistics Canada, 1996).

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## Retirement patterns by industry\*

	1992 to 1996		1997 to 2001	
	'000	Median age	'000	Median age
<b>All workers (aged 50+)</b>	<b>605</b>	<b>62.0</b>	<b>706</b>	<b>60.8</b>
<b>Goods-producing</b>	<b>165</b>	<b>63.0</b>	<b>190</b>	<b>62.2</b>
Primary	36	64.9	39	65.2
Agriculture	22	66.7	25	68.6
Other	14	62.8	14	61.2
Utilities	10	59.2	14	56.6
Construction	32	64.7	35	63.7
Manufacturing	88	61.9	103	61.4
<b>Service-producing</b>	<b>438</b>	<b>61.7</b>	<b>512</b>	<b>60.3</b>
Trade	66	64.3	69	62.6
Transportation and warehousing	36	61.0	42	60.8
Finance, insurance, real estate and leasing	37	62.3	41	60.0
Professional, scientific and technical	17	64.8	27	64.6
Management, administrative and other	13	65.4	17	64.6
Educational services	71	60.3	105	57.1
Health care and social assistance	56	61.4	82	60.3
Information, culture and recreation	28	61.0	18	59.9
Accommodation and food services	17	64.7	18	64.0
Other services	22	64.8	30	63.6
Public administration	75	59.3	62	58.2
<b>Employees (aged 50+)</b>	<b>513</b>	<b>61.3</b>	<b>578</b>	<b>60.1</b>
<b>Goods-producing</b>	<b>127</b>	<b>61.7</b>	<b>147</b>	<b>61.2</b>
Primary	13	62.1	15	61.8
Agriculture	3	64.0	5	64.8
Other	10	61.9	11	60.1
Utilities	10	59.2	14	56.6
Construction	22	63.9	21	62.7
Manufacturing	83	61.6	97	61.3
<b>Service-producing</b>	<b>386</b>	<b>61.2</b>	<b>431</b>	<b>59.9</b>
Trade	51	64.2	53	62.3
Transportation and warehousing	33	60.4	37	60.6
Finance, insurance, real estate and leasing	32	62.3	32	59.4
Professional, scientific and technical	10	64.7	11	62.3
Management, administrative and other	9	65.6	10	64.6
Educational services	70	60.2	100	56.6
Health care and social assistance	52	61.3	75	60.2
Information, culture and recreation	26	60.8	17	59.3
Accommodation and food services	13	64.7	14	63.1
Other services	15	64.8	20	63.3
Public administration	75	59.3	62	58.2
<b>Self-employed (aged 50+)</b>	<b>87</b>	<b>65.0</b>	<b>123</b>	<b>65.0</b>
<b>Goods-producing</b>	<b>35</b>	<b>65.1</b>	<b>41</b>	<b>65.9</b>
Primary	21	66.4	23	69.2
Agriculture	17	67.2	20	69.6
Other	4	64.6	3	66.6
Construction	10	64.9	13	64.7
Manufacturing	5	64.8	5	62.7
<b>Service-producing</b>	<b>52</b>	<b>64.9</b>	<b>81</b>	<b>64.6</b>
Trade	14	65.1	17	64.3
Transportation and warehousing	4	64.9	6	64.6
Finance, insurance, real estate and leasing	5	63.7	9	65.6
Professional, scientific and technical	7	66.1	16	65.1
Management, administrative and other	4	64.7	7	64.6
Health care and social assistance	4	64.3	7	66.0
Accommodation and food services	4	64.7	4	65.9
Other services	7	65.1	10	64.6

Source: Labour Force Survey

Note: These categories describe the last job held prior to retirement. They may or may not reflect a person's lifetime work history.

\* Excludes some groups with too small a sample to provide a reliable estimate, so the groups will not add to total. Likewise, industries in the self-employed category exclude unpaid family workers.

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1989–2003

*This index lists articles published in Perspectives since its inception. It is updated quarterly (available as a PDF file) and published in the Winter issue. Online publication date in parentheses.*

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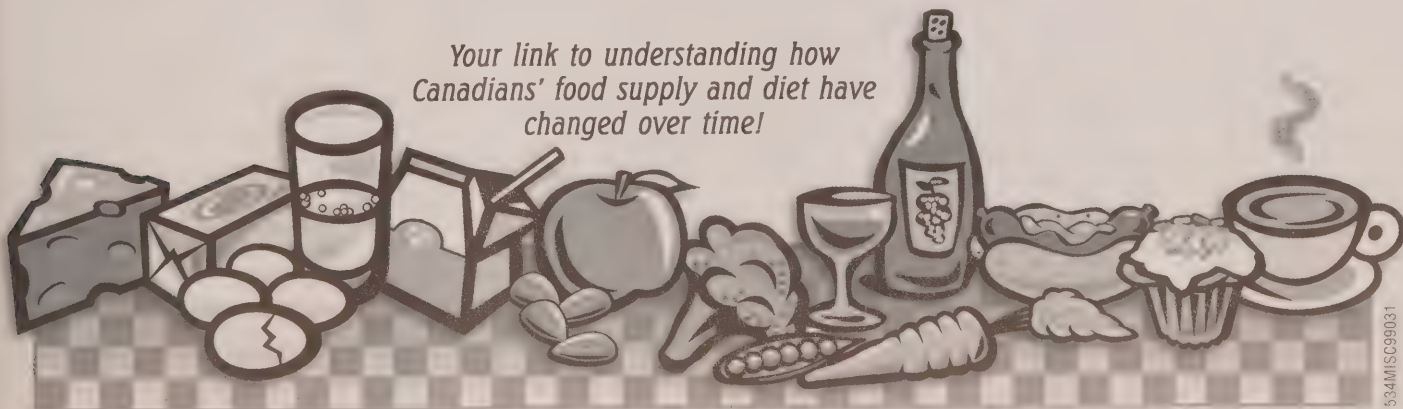
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